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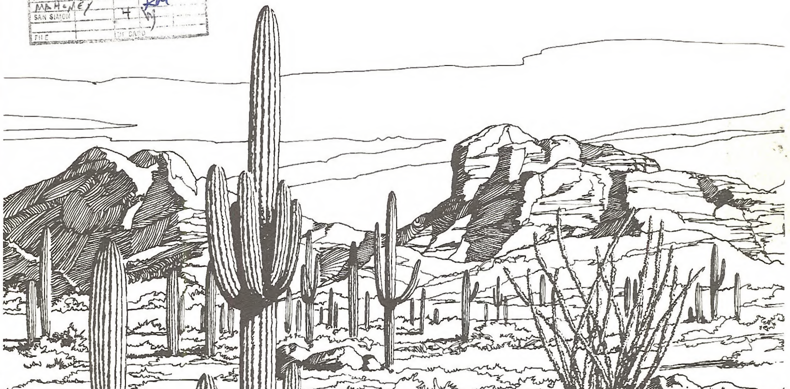
Draft Wilderness Environmental Impact Statement



Prepared by
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Bureau of Land Management
Arizona

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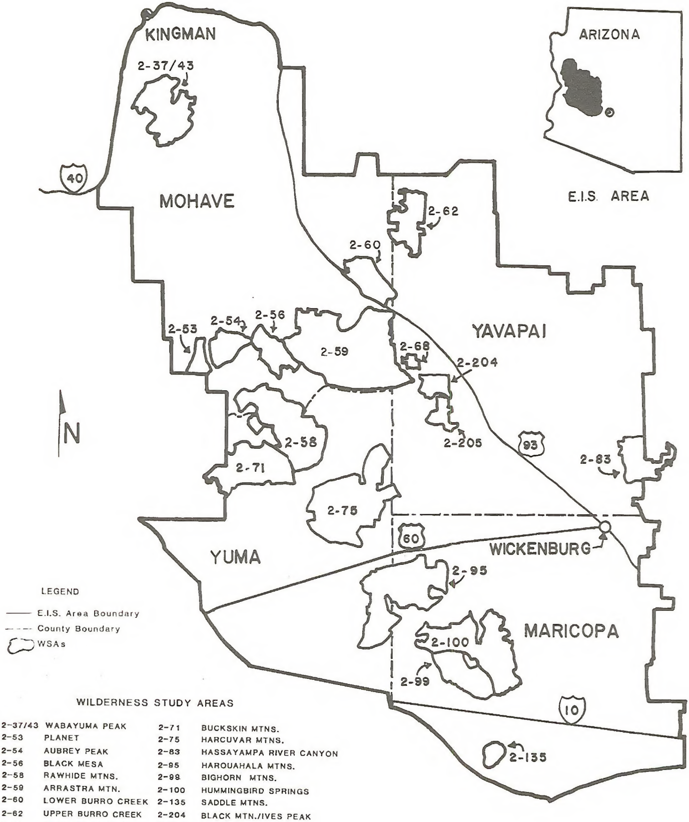
EIS AREA LOCATION MAP



WILDERNESS STUDY AREAS

2-37/43	WABAYUMA PEAK	2-71	BUCKSKIN MTNS.
2-53	PLANET	2-75	HARCUVAR MTNS.
2-54	AUBREY PEAK	2-83	HASSAYAMPA RIVER CANYON
2-56	BLACK MESA	2-95	HAROUAHALA MTNS.
2-58	RAWHIDE MTNS.	2-98	BIGHORN MTNS.
2-59	ARRASTRA MTN.	2-100	HUMMINGBIRD SPRINGS
2-60	LOWER BURRO CREEK	2-135	SADDLE MTNS.
2-62	UPPER BURRO CREEK	2-204	BLACK MTN./IVES PEAK
2-68	PEOPLES CANYON	2-205	TRES ALAMOS

March 3, 1849

IN REPLY REFER TO

United States Department of the Interior

BUREAU OF LAND MANAGEMENT

PHOENIX DISTRICT OFFICE
2929 WEST CLARENDON AVENUE
PHOENIX, ARIZONA 85017

September 1982

Enclosed for your review and comment is the draft environmental impact statement (EIS) for the wilderness designation of wilderness study areas in the Hualapai-Aquarius and Lower Gila North Planning Areas in Maricopa, Mohave, Yavapai, and Yuma Counties, Arizona.

This EIS is based on information from Bureau of Land Management planning documents, inventory records, and other sources, including federal, state, and local agencies, private organizations, and interested individuals. The purpose of the statement is to disclose in advance the probable environmental impacts of the Proposed Action and its alternatives, and to assure that these factors are considered along with economic and other considerations in the decisionmaking process.

We would appreciate receiving your comments on the draft statement. The comment period will run for 60 days after the draft is filed with the Environmental Protection Agency. The notice of receipt will be published in the Federal Register in October 1982. Public hearings will be held November 3 and 4, 1982 in Kingman and Phoenix, Arizona. The Kingman hearing will be held at 7:30 p.m. November 3 at the Mohave County Fairgrounds. The Phoenix hearing will be held at 7:30 p.m. November 4 at the Maricopa County Supervisors Auditorium, 205 West Jefferson.

Comments received after the 60-day review period will be considered in the later decisionmaking process, even though they may be too late to be included in the final environmental impact statement.

Please send your comments to:

District Manager
Bureau of Land Management
EIS Projects Office
2933 West Indian School Road
Phoenix, Arizona 85017

Bureau of Land Management
Library
Bldg. 50, Denver Federal Center
Denver, CO 80225

Sincerely,

W. K. Barker
District Manager

ID 88013132

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DRAFT
ENVIRONMENTAL IMPACT STATEMENT

PROPOSED WILDERNESS PROGRAM
for the
UPPER SONORAN WILDERNESS EIS AREA

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MARICOPA, MOHAVE, YAVAPAI, AND YUMA COUNTIES, ARIZONA

Prepared by

DEPARTMENT OF THE INTERIOR

BUREAU OF LAND MANAGEMENT
PHOENIX DISTRICT

D. Dean Bibles

State Director

Arizona State Office

This environmental impact statement analyzes the environmental consequences of proposed wilderness designation in west-central Arizona. The Proposed Action recommends 280,125 acres (11 units) to be incorporated into the National Wilderness Preservation System. Alternatives in addition to the Proposed Action include All Wilderness — 652,832 acres (18 units), Enhanced Wilderness — 398,065 acres (12 units), Limited Wilderness — 135,920 acres (4 units), and No Wilderness (No Action) — no units are recommended for designation. This draft EIS includes a description of the affected environment and an analysis of the environmental impacts of the Proposed Action and alternatives.

For further information contact Bill Carter, EIS Team Leader, Phoenix District Office, Bureau of Land Management, 2929 West Clarendon Avenue, Phoenix, Arizona 85017 or call (602) 241-2852.

Comments on the Draft EIS are due: DEC 6 1982

NOTICE TO READERS

Please keep this draft EIS for possible use as part of the final EIS. Council on Environmental Quality regulations [43 CFR 1503.4(c)] provide for circulation of abbreviated final EISs where major changes to the draft are not required. If the public review requires only minor changes to the draft, then the final EIS will consist of this draft and a supplement containing public comments, responses to comments, and necessary changes and corrections. This procedure will cut printing costs and speed up the environmental process.

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LIST OF AGENCIES, ORGANIZATIONS, AND PERSONS TO WHOM COPIES OF THE STATEMENT ARE SENT

BLM will request comments on the draft EIS from all affected grazing permittees, interested individuals, federal and state agencies, and interest groups. Due to the size of the mailing list (over 1,000), the following is a partial list of those receiving the document.

Federal Agencies

- Advisory Council on Historic Preservation
- Environmental Protection Agency
- Department of Agriculture
  - Agricultural Stabilization and Conservation Service
  - Economics Statistics Service
  - Forest Service
  - Science and Education Administration
  - Soil Conservation Service
- Department of Defense
  - Corps of Engineers
  - U.S. Air Force
- Department of the Interior
  - Bureau of Indian Affairs
  - Bureau of Reclamation
  - Fish and Wildlife Service
  - Geological Survey
  - National Park Service

Arizona State Agencies

- Arizona Commission of Agriculture and Horticulture
- Arizona Department of Health Services
- Arizona Department of Library, Archives, and Public Records
- Arizona Department of Transportation
- Arizona Game and Fish Department
- Arizona Natural Heritage Program
- Arizona Office of Economic Planning and Development
- Arizona Outdoor Recreation Coordinating Commission
- Arizona State Clearinghouse
- Arizona State Historic Preservation Officer
- Arizona State Land Commissioner
- Arizona State Parks Board
- Arizona State University
- Arizona Water Resources Department
- Attorney General's Office
- Governor Bruce Babbitt
- Governor's Commission on Arizona Environment
- Mineral Resource Department
- Museum of Northern Arizona
- Northern Arizona University
- University of Arizona

Local Agencies

- Big Sandy Natural Resources Conservation District
- Buckeye-Roosevelt Natural Resource Conservation District
- District IV Council of Governments
- Maricopa Association of Governments
- Maricopa County Board of Supervisors
- Maricopa County Planning and Zoning Commission
- Mohave County Board of Supervisors
- Mohave County Community College
- Mohave County Library
- Mohave County Planning and Zoning Commission
- Northern Arizona Council of Governments
- Phoenix Public Library
- Wickenburg Resource Conservation District
- Yavapai College
- Yavapai County Board of Supervisors
- Yavapai County Planning and Zoning Department
- Yuma County Board of Supervisors
- Yuma County Planning and Zoning Department

Indian Tribes and Councils

- Chemehuevi Tribal Council
- Colorado River Indian Tribes
- Fort Mohave Tribal Council
- Havasupai Tribal Council
- Hopi Tribal Council
- Hualapai Tribal Council
- Kaibab Paiute Tribe
- Navajo Tribal Council
- Yavapai-Prescott Board of Directors

Other Organizations

- Animal Defense Council
- Arizona Cattle Growers Association
- Arizona Desert Bighorn Sheep Society
- Arizona Farm Bureau Federation
- Arizona Humane Society
- Arizona Livestock Production Credit Association
- Arizona Prospectors and Small Mine Operators Association
- Arizona Wildlife Federation
- Arizona Wool Growers Association
- Arizona 4-Wheel Drive Association
- Audubon Society
- Defenders of Wildlife
- Desert Tortoise Council
- Development Corporations
- Federal Land Bank Association
- International Society for the Protection of Mustangs and Burros
- Izaak Walton League of America
- Kingman Grazing Advisory Board
- League of Women Voters
- Legal Organizations
- Maricopa County Farm Bureau Federation
- Mining Companies
- Multiple-Use Advisory Council, Phoenix District
- National Audubon Society
- National Council of Public Land Users
- Natural Resources Defense Council, Inc.
- News Media
- Oil and Gas Companies
- ORV Clubs
- Phoenix-Lower Gila Resource Areas Grazing Advisory Board
- Public Lands Council
- Public Lands Institute
- Rockhound Clubs
- Save the Mustangs
- Sierra Club
- The Wilderness Society
- Utility Companies
- Wild Burro Protection Association
- Wild Horse Organized Assistance
- Wildlife Management Institute
- Wildlife Society

Elected Representatives

Federal

- Representative John J. Rhodes
- Representative Eldon Rudd
- Representative Bob Stump
- Representative Morris K. Udall
- Senator Dennis DeConcini
- Senator Barry Goldwater

State

- Representative Pete Corpstein
- Representative Morris Courtright
- Representative Bob Denny
- Representative Jerry Everall
- Representative Jim Hartdegen
- Representative John U. Hays
- Representative Cal Holman
- Representative Bill Lewis
- Representative Sam A. McConnell, Jr.
- Representative Frank McElhaney
- Representative James B. Ratliff
- Representative John Wettaw
- Senator Tony Gabaldon
- Senator Luis A. Gonzales
- Senator Anne Lindeman
- Senator John T. Mawhinney
- Senator Jones Osborn
- Senator John C. Pritzlaff, Jr.
- Senator S.H. "Hal" Runyan
- Senator Ed C. Sawyer
- Senator Boyd Tenney

SUMMARY

SUMMARY

Purpose and Need

The Bureau of Land Management (BLM) is under congressional mandate to review roadless areas of 5,000 acres or more on public lands having wilderness characteristics and by 1991 to recommend to the President the suitability of such areas for preservation as wilderness. This environmental impact statement (EIS) assesses the environmental consequences of managing as wilderness 18 wilderness study areas (WSAs) in the Upper Sonoran Wilderness EIS area. This area lies in Maricopa, Mohave, Yavapai, and Yuma Counties in west-central Arizona and consists of the BLM Phoenix District's Hualapai-Aquarius and Lower Gila North Planning Areas.

The Phoenix District's wilderness inventory began in the fall of 1978 and involved the following steps.

- Identifying all roadless areas of 5,000 acres or more.
- A 90-day review period, after which lands believed to meet wilderness criteria were proposed for more intensive inventory.
- Intensive inventory involving on-the-ground inspection to verify wilderness qualities.
- Another 90-day review period during which WSAs were identified.

To help "scope" and summarize significant issues related to wilderness designation, BLM requested public comments on its wilderness inventory and planning process, sent letters to interested organizations, and held meetings with energy and mineral groups. Scoping found the following wilderness-related issues of high concern:

vehicular access
minerals and energy development
livestock management
recreation
wilderness management
state and private lands

BLM proposes the following five alternatives as representing the best range of options for wilderness management of the EIS area's 18 WSAs. (See Table 2-1 for the specific WSAs involved in each alternative.)

1. The *Proposed Action,* which corresponds to recommendations in Step 2 of the Hualapai-Aquarius and Lower Gila North Management Framework Plans (MFPs), recommends designating as wilderness all or parts of 11 WSAs, including 259,245 acres of public land and 20,880 acres of state and private land. This proposal would require acquisition of mineral rights on 42,480 acres.

2. *All Wilderness* recommends designating as wilderness all 18 WSAs, including 643,092 acres of public land and 9,740 acres of state and private inholdings. This alternative would require the acquisition of mineral rights on 89,070 acres.

3. *Enhanced Wilderness,* which was formulated in response to public comment criticizing WSA boundary changes under the *Proposed Action,* would designate all or parts of 12 WSAs, including 373,905 acres of public land and 24,160 acres of state and private land. This alternative would require the acquisition of 65,020 acres of mineral rights.

4. *Limited Wilderness* recommends wilderness designation of portions of four WSAs, which have exceptional wilderness character and few conflicts with other resources. This alternative would involve 135,900 acres of public land and 20 acres of private surface and mineral rights. BLM would need to acquire 2,800 acres of state mineral rights.

5. *No Wilderness (No Action)* recommends no wilderness designation for the 18 WSAs but their return to multiple-use management.

Under all five alternatives, the WSAs would be managed under BLM's Interim Management Policy for Lands Under Wilderness Review (Appendix 1) until they are either designated wilderness or released by Congress. Areas designated wilderness would be managed under provisions of the Wilderness Act, the Federal Land Policy and Management Act, and BLM's Wilderness Management Policy (Appendix 2) as amended to include requirements of the law designating the wilderness area.

Environmental Consequences

BLM based its analysis of environmental consequences on the assumption that the following activities would be allowed in wilderness areas:

- the use of aircraft and motorboats where their use has been established or when needed for fire, insect, or disease control;
- mineral prospecting until December 31, 1983 or designation, whichever occurs later, if compatible with wilderness preservation;
- livestock grazing, subject to Department of the Interior regulations;
- commercial activities to serve recreation or other wilderness purposes;
- access to state or privately owned inholdings.

SUMMARY

The Wilderness Act does not exempt the affected resources from state water laws or the state responsibilities for wildlife and fish in the area. Moreover, if in the public interest, the President may authorize establishing and maintaining reservoirs, power projects, transmission lines, roads, and other facilities in wilderness areas.

BLM's interdisciplinary team of resource specialists determined that no alternative would measurably impact geology, topography, soils, water resources, air quality, climate, or fire management. Vegetation would be little affected, and only one protected plant species – *Thelypteris puberula* var. *sonorensis* – might be trampled by increased visitors should Peoples Canyon be designated wilderness. Wilderness designation would also not greatly affect wild burros, although designation could require greater use of helicopters in burro removal and could greatly increase burro removal costs.

WILDERNESS VALUES

Wilderness designation would ensure the continued preservation and enhancement of wilderness and related plant, wildlife, scenic, and recreation resources, protecting these values from most mining and oil and gas exploration, all ORV use, road building, utility corridor construction and expansion, and other development. In a few areas, designation might lead to visitor overuse, which could degrade solitude and supplemental wilderness values, such as wildlife habitat. Such adverse impacts could be mitigated, however, through a wilderness management plan.

WILDLIFE HABITAT

Designation would generally protect wildlife habitat from long-term cumulative habitat losses that could result from development under *No Wilderness.* Crucial wildlife habitat would be protected in 14 WSAs. Such habitat includes ponderosa pine, riparian, chaparral, pronghorn antelope, desert tortoise, and desert bighorn sheep habitat. Designation would protect the habitat of 23 special-status species. *All Wilderness* would provide the most protection, followed by *Enhanced Wilderness,* the *Proposed Action,* and *Limited Wilderness.*

LAND USES

Wilderness designation would prevent the building or expanding of utility corridors, communication sites, and access roads and prevent the granting of rights-of-way in wilderness areas.

MINERAL EXPLORATION AND DEVELOPMENT

The following mining restrictions would be imposed by wilderness designation.

- No new mining claims could be filed after designation (assuming designation occurs after December 31, 1983).
- All mining claims existing on the date of designation must be found to be valid.
- A mining plan of operation must be submitted before the surface can be disturbed on a valid mining claim.
- BLM cannot restrict a mining operation on a valid claim to the extent that the mine becomes uneconomical.
- Nonimpairing mineral exploration may be conducted in wilderness areas, but mining claims cannot be filed or mineral rights patented.
- Minerals may not be leased after designation. If BLM issues a lease before designation, stipulations cannot be so restrictive as to preclude development.
- No permits for common variety minerals (sand and gravel) will be issued after designation.

The main impact of designation would be to prevent the exploitation of subeconomic or undiscovered minerals. Recent price reductions in metals, however, suggest that none of the WSA's mining claims located now or before designation would be found to be valid.

RANGELAND MANAGEMENT

Wilderness designation would not prohibit grazing in WSAs that were grazed before the passage of the Federal Land Policy and Management Act (1976). Livestock increases, however, would be allowed only if they would not impact wilderness or multiple-use values. New rangeland developments could not be built solely to accommodate increased livestock numbers but only as needed for resource protection. Unless BLM, in cooperation with livestock operators, is allowed to build and maintain rangeland developments where needed in wilderness areas, wilderness designation could prevent the implementing of intensive grazing management under allotment management plans (AMPs) and prevent the range from increasing its forage production. The following table shows how each alternative could affect intensive grazing management.

Alternative	AMPS Whose Implementation Could Be Precluded	Potential Forage Increases That Might Not Be Realized (AUMs)
Proposed Action	10	3,810
All Wilderness	16	9,035
Enhanced Wilderness	13	5,744
Limited Wilderness	7	3,001

SUMMARY

CULTURAL RESOURCES

Wilderness designation would generally benefit cultural resources in the WSAs by preventing new development. Such development improves access to sites and increases visitation, often resulting in artifact collection and other vandalism. In banning motor vehicles, designation would protect remote sites and stop vehicle-related damage to surface artifacts and features. In addition, designation would protect privately owned sites acquired through exchange.

On the other hand, designation could harm cultural resources by increasing the number of hikers and backpackers in WSAs, which could increase vandalism. The ban on motor vehicles could hurt scientific study and the protection of cultural resources, since surveys heavily depend on four-wheel drive vehicles and helicopters. The ban on motor vehicles would also limit the number of sites that could be monitored and patrolled for vandalism.

VISUAL RESOURCES

Wilderness designation would benefit visual resources by designating wilderness areas visual resource management (VRM) Class I, a more restrictive class than the WSAs are now under. A Class I designation would ban or restrict visual intrusions.

RECREATION

The analysis of the impacts of wilderness designation on recreation use was based on the assumption that decreases in such recreational activities as off-road vehicle use would be accompanied by some increase in nonmotorized recreation. Wilderness designation would increase annual recreation visitor use by the following amounts: *Proposed Action* — 6,200 visitor days, *Enhanced Wilderness* — 6,100 visitor days, *All Wilderness* — 3,000 visitor days, and *Limited Wilderness* — 5,550 visitor days.

ECONOMIC CONDITIONS

The analysis of the impacts of wilderness designation on economic conditions assumes that intensive management would not be implemented on any allotment with 15 percent wilderness or more. The inability to implement intensive grazing would prevent forage from increasing, which would result in a loss of potential revenue for ranchers. Moreover, the loss of potential forage would not allow ranch values to increase to their potential. The following table shows the adverse impacts by alternative.

Alternative	Annual Forage Increases Not Realized (AUMs)	Annual Ranch Net Revenue Increases Not Realized	Ranch Value Increases Not Realized
Proposed Action	3,810	$19,050	$ 476,250
All Wilderness	9,035	45,175	1,129,375
Enhanced Wilderness	5,744	28,720	718,000
Limited Wilderness	3,001	15,005	375,125

Wilderness designation, however, would increase recreation visitor use, spending by recreationists, and recreation-related employment as shown in the following table.

Alternative	Increased Annual Visitor Days	Increased Annual Visitor Spending	Increased Recreation-Related Jobs
Proposed Action	6,200	$93,000	3
All Wilderness	3,000	45,000	2
Enhanced Wilderness	6,100	91,000	3
Limited Wilderness	5,550	83,000	3

SOCIAL ELEMENTS AND ATTITUDES

Wilderness designation would not greatly affect population totals or trends at the local, county, or regional levels. Nor would designation affect public perceptions of wilderness at the county and regional levels. Although local populations tend to oppose wilderness designation or to be indifferent to it, only the *All Wilderness* alternative could have a significant adverse impact on public perceptions of wilderness. *All Wilderness* could generate widespread public opposition, even from residents who would have previously remained neutral in the wilderness controversy.

Chapter 1

PURPOSE AND NEED

CHAPTER 1

PURPOSE AND NEED

Introduction

This environmental impact statement (EIS) considers the possible consequences of five alternatives for wilderness designation of public lands in the Hualapai-Aquarius and Lower Gila North Planning Areas in the Phoenix District. These planning areas will be referred to as the Upper Sonoran Wilderness EIS area. The EIS area lies in southern Mohave County, west-central Yavapai County, northern Yuma County, and northwest Maricopa County, Arizona. It extends from Interstate Highway 10 on the south to Interstate Highway 40 and the city of Kingman on the north. (See location map inside front cover and Plate 1 in pocket inside back cover.) Public lands addressed in this EIS make up 29 percent (643,092 acres) of all the lands in the area.

Historically, livestock grazing and mining have consituted the major uses in the area. Recently, outdoor recreation has been increasing. Conflicts among the land uses have necessitated studying the possibility of setting aside areas as wilderness to protect their natural environments.

Purpose and Need for Action

The Bureau of Land Management (BLM) is under congressional mandate to provide for orderly use and development of the public lands and to preserve the land and its resources from destruction or unneeded injury. The Federal Land Policy and Management Act of 1976 (FLPMA) directs BLM to periodically inventory the lands and to project present and future uses in land use plans. These plans, management framework plans (MFPs) and resource management plans (RMPs), ensure that public lands are managed on a multiple-use and sustained yield basis and that the quality of natural resources is preserved. Section 603 of FLPMA directs the Secretary of the Interior to review roadless areas of 5,000 acres or more having wilderness characteristics and by 1991 to recommend to the President the suitability of such areas for preservation as wilderness. One area of less than 5,000 acres – Peoples Canyon – was inventoried and studied under sections 201, 202, and 302 of FLPMA. These sections require the Secretary of the Interior to inventory all public lands, giving priority to areas of critical environmental concern. Within 2 years after receiving a recommendation, the President must send a report to Congress. Congress, however, has no time limit for acting on the President's recommendation.

This EIS assesses the environmental consequences of managing wilderness study areas (WSAs) should they be designated wilderness.

The Wilderness Inventory

The wilderness inventory began in the fall of 1978 when Phoenix District wilderness specialists identified all roadless areas of 5,000 acres or more. Areas clearly lacking wilderness characteristics were sorted out from lands that might have those characteristics. After a 90-day public review period, lands believed to meet wilderness criteria were proposed for more intensive inventory. This intensive inventory phase involved on-the-ground inspections to verify the wilderness qualities. This intensive inventory was followed by a 90-day public review period. Those areas identified in this inventory and review are the wilderness study areas (WSAs) being analyzed in this EIS.

BLM Management Framework Plan

The proposed wilderness management program was developed through BLM's planning system. After the WSAs were identified in the wilderness inventory, they became the wilderness recommendations in Step 1 of the management framework plans (MFPs) for the study area.

The wilderness study criteria and quality standards were applied to each WSA between Step 1 and Step 2 of the MFP. These planning criteria are as follows.

Criterion No. 1 - Evaluation of Wilderness Values

- (a) Mandatory Wilderness Characteristics: Size, naturalness, and outstanding opportunities for solitude or primitive recreation.
- (b) Special Features: Ecological, geologic, or other features of scientific, educational, scenic, or historic value.
- (c) Multiple Resource Benefits: Benefits to other resources and uses that only wilderness designation could ensure.
- (d) Diversity in the National Wilderness Preservation System:
  - (1) Expanding the diversity of natural systems.
  - (2) Assessing the opportunities for solitude or primitive recreation within a day's driving time (5 hours) of major population centers.

(3) Balancing the geographic distribution of wilderness areas.

Criterion No. 2 - Manageability

The area must be capable of being effectively managed to preserve its wilderness character.

Step 2 of the MFP resolved conflicts among resource recommendations through public and management involvement. Area managers drafted multiple-use management recommendations which considered the public comments. BLM then held open houses and public meetings to encourage public involvement in the review and analysis of the recommendations. After these meetings, the recommendations were incorporated into Step 2 of the MFP. These wilderness recommendations became BLM's *Proposed Action* for the EIS.

The final phase of the MFP process is Step 3, the District Manager's decision. The District Manager will recommend to the Secretary of the Interior, through the State Director and the Director of BLM, that selected WSAs or portions of WSAs are suitable for wilderness designation and that those areas found nonsuitable be released to multiple-use management. The Secretary will then order the Geological Survey and the Bureau of Mines to conduct a mineral survey on the areas recommended suitable for wilderness designation and forward a recommendation to the President. The President has 2 years in which to send a recommendation to Congress.

Environmental Assessment

An interdisciplinary team of resource specialists analyzed the environmental consequences of the MFP-Step 2 recommendations for wilderness and compared them to the environmental consequences of reasonable alternatives. This draft EIS documents the analysis and comparisons.

After BLM receives public comments on the draft EIS, it will analyze and respond to them in the final EIS. The preliminary final EIS and wilderness study report will be forwarded to BLM's Washington Office for review and approval to print. The final EIS will then be filed with the Environmental Protection Agency.

Scoping (Issue Identification)

Scoping is the early and open process for determining the scope of issues to be addressed and for identifying the significant issues related to a proposed action. Scoping determines in depth the scope and the significant issues to be analyzed in the EIS and identifies and eliminates from detailed study insignficant issues or issues addressed in earlier environmental reviews. The public involvement in the wilderness program began as early as the fall of 1978 and continues. The decision to prepare an EIS on the Upper Sonoran EIS area was published in the *Federal Register* on October 2, 1981.

Information gained through scoping is then integrated with data from the environmental analysis. Scoping thus reduces the length of the EIS and emphasizes the real alternatives and impacts.

The scoping process for the EIS area involved several phases, extending from the fall of 1978 to January 1982:

- Initial wilderness inventory and public comment period — 1978-1979.
- Intensive wilderness inventory and public comment period — 1979-1980.
- BLM study and planning process — 1980-1981.
- Public review of MFP-Step 2 recommendations for wilderness — 1980-1981.
- Notice of Intent to prepare an EIS — 1981.
- Letters to the energy and mineral industries and individual claim holders — November 1981.
- Letters to Tribal leaders — December 1981.
- Meetings with interested energy and minerals groups — December 1981 and January 1982.

Results of Scoping

In preparing this draft EIS, the interdisciplinary team and resource managers considered the major areas of public interest and concern identified through scoping. The team used the scoping process to determine which concerns would be signficantly impacted by the *Proposed Action* or alternatives. The scoping process identified the following as areas of significant concern.

A. Access
    1. Control of vehicular access.
    2. Development of access routes within the WSAs.
B. Minerals and Energy Development
    1. Status in WSAs.
    2. Impacts on wilderness values.
C. Livestock Management
    1. Impact of designation on authorized grazing preferences (see glossary) and future range developments.
D. Recreation
    1. Ability of the public to use the areas.
    2. Increased visitor use on the areas.
E. Management
    1. Control of increased use.
    2. Changing boundaries for better management.
    3. Effect of boundary changes on wilderness resources.
F. State and Private Lands
    1. Concern for state and private inholdings and contiguous lands having wilderness character.
    2. Nonfederal mineral ownership.

The scoping process identified the following resources or issues that would not be signficantly impacted by the *Proposed Action* or the alternatives analyzed in the EIS: geology, topography, soils, air quality, climate, water resources, vegetation, and fire management. Most of the above are discussed in Chapter 3 (Affected Environment) to help the reviewer understand the area and its environment.

Alternatives Selected

The interdisciplinary team selected the following five alternatives after analyzing public comments, identifying resource conflicts in the planning process, and applying the wilderness criteria.

1. *Proposed Wilderness Management Program (Proposed Action)* — 11 WSAs, 259,245 acres of public land.
2. *All Wilderness* — 18WSAs, 643,092 acres of public land.
3. *Enhanced Wilderness* — 12 WSAs, 373,905 acres of public land.
4. *Limited Wilderness* — 4 WSAs, 135,900 acres of public land.
5. *No Wilderness (No Action)* — No wilderness areas recommended.

These alternatives will provide BLM managers a wide range of options from which they can develop wilderness recommendations. The *Proposed Action* includes the wilderness management recommendations developed during the planning process. The *No-Wilderness* and *All-Wilderness* alternatives are required by the BLM wilderness study policy. To provide a full range of alternatives, the team reviewed the public comments, resource conflicts, and the wilderness criteria. From this review they developed the *Enhanced Wilderness* and *Limited Wilderness* alternatives.

Chapter 2

ALTERNATIVES

CHAPTER 2

ALTERNATIVES INCLUDING THE PROPOSED ACTION

Introduction

This chapter describes in detail the five alternatives, including the *Proposed Action,* selected for analysis in this study. The description of the alternatives will allow the reader to compare and weigh the merits of each. To provide the public and decisionmaker with a convenient tool for comparing impacts, defining issues, and reaching conclusions, the chapter will end with a comparative summary of the alternatives.

Several policy requirements will apply to all WSAs and to the WSAs or portions of WSAs designated wilderness. Some of these requirements will be described briefly. For detailed descriptions, see Appendices 1 and 2.

Until either released or designated by Congress, all 17 WSAs[1] will be managed under the Interim Management Policy and Guidelines for Lands Under Wilderness Review (Appendix 1). These guidelines and policy will guide BLM staff in decisions that arise in everyday management of lands under wilderness review. In addition, some "grandfathered" uses will be allowed within an area. Such uses occurred on the lands before the passage of the Federal Land Policy and Management Act (FLPMA) on October 21, 1976. The uses described by Congress were existing mining and grazing and mineral leasing in the same manner and degree in which they were being conducted on the date of FLPMA's passage. For more detail on "grandfathered" uses, see Appendix 1.

BLM will manage newly designated wilderness areas under the provisions of the 1964 Wilderness Act, FLPMA, and BLM's Wilderness Management Policy (Appendix 2). The Wilderness Management Policy will be amended to include requirements of the law designating the wilderness area. Section 4 of the Wilderness Act states that wilderness areas should be devoted to recreation, scenic, scientific, educational, conservation, and historic use. Subpart c of this section sets the limit on use, and subpart d identifies provisions allowing specific activities.

Following are some of the activities that would be allowed in designated wilderness areas.

- The use of aircraft or motorboats, where these uses have already become established, may be allowed to continue, and aircraft and motorboats could be used for fire, insect, and disease control. These activities would be subject to conditions deemed desirable by the managing department head.
- Mineral prospecting would be allowed until December 31, 1983 or until designation, whichever occurs later, if compatible with the preservation of wilderness. Mining and mineral leasing laws in effect before designation would remain in effect, subject to Department of the Interior regulations governing access. Mechanized ground and air equipment may be allowed, but disturbed land surfaces must be restored.
- If in the public interest, the President may authorize establishing and maintaining reservoirs, power projects, transmission lines, roads, and other such facilities in wilderness areas.
- Lifestock grazing can continue subject to Department of the Interior regulations.
- Commercial activities could be allowed within wilderness areas to serve recreation or other wilderness purposes.
- The Wilderness Act does not exempt the affected resources from state water laws or the state jurisdiction and responsibilities for wildlife and fish in the area.
- Access to state or privately owned land surrounded by wilderness will be guaranteed.

This EIS describes each WSA and alternative. An acreage comparison and description by unit and alternative are presented in Table 2-1. Components of the *Proposed Action* that apply to other alternatives will not be described under each alternative but will be referred to the description of the *Proposed Action.*

Description of Alternatives Including the Proposed Action

PROPOSED ACTION

The *Proposed Action* corresponds to recommendations in Step 2 of the Hualapai-Aquarius and Lower Gila North Management Framework Plans (MFPs) (BLM, 1980a; 1981c) and constitutes BLM's preferred alternative. This alternative recommends that all or portions of 11 WSAs be included in the National Wilderness Preservation System and that Congress release the remaining areas from the wilderness review process.

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[1] Peoples Canyon is not managed under the Interim Management Policy but under sections 201, 202, and 302 of FLPMA.

TABLE 2-1
WSA ACRES BY ALTERNATIVE

WSA	Public Acres Suitable	Other Public Lands[2]	Recommended State and Private Exchanges[1]						Total Area Proposed[9]
			Surface Ownership Only[3]	Mineral Ownership Only[4]	Surface and Mineral Ownership[5]	Total Mineral Acquisition[6]	Total Surface Acquisition		
							Minimum for Manageability[7]	Maximum Identified[8]	
PROPOSED ACTION									
Wabayuma Peak	11,145	0	0	4,720	1,360	6,080	1,320	1,360	12,505
Aubrey Peak	15,240	230	0	9,420	840	10,260	200	840	16,310
Rawhide Mountains	17,600	0	0	2,080	0	2,080	0	0	17,600
Arrastra Mountain	111,650	0	0	10,600	3,300	13,900	640	3,300	114,950
Lower Burro Creek	22,300	220	0	640	1,980	2,620	0	1,980	24,500
Peoples Canyon	3,480	0	4,160	0	2,680	2,680	3,000	6,840	10,320
Harquahala Mountains	26,780	0	0	0	0	0	0	0	26,780
Big Horn Mountains	21,500	0	0	1,100	400	1,500	0	400	21,900
Hummingbird Springs	15,900	0	0	640	640	1,280	0	640	16,540
Saddle Mountain	5,500	0	0	0	0	0	0	0	5,500
Black Mountains/Ives Peak	7,700	0	3,440	0	2,080	2,080	2,560	5,520	13,220
TOTALS	258,795	450	7,600	29,200	13,280	42,480	7,720	20,880	280,125
ALL WILDERNESS									
Wabayuma Peak	36,730	0	0	21,300	1,720	23,020	1,560	1,720	38,450
Planet	12,765	0	0	7,040	0	7,040	0	0	12,765
Aubrey Peak	15,240	0	0	9,420	200	9,620	200	200	15,440
Black Mesa	17,010	0	0	9,020	0	9,020	0	0	17,010
Rawhide Mountains	62,300	0	0	6,360	0	6,360	0	0	62,300
Arrastra Mountain	113,650	0	0	10,600	660	11,260	660	660	114,310
Lower Burro Creek	22,300	0	0	640	0	640	0	0	22,300
Upper Burro Creek	27,390	0	0	6,400	640	7,040	640	640	28,030
Peoples Canyon	3,480	0	0	0	0	0	0	0	3,480
Buckskin Mountains	47,582	0	0	0	880	880	240	880	48,462
Harcuvar Mountains	74,778	0	0	5,540	1,960	7,500	1,280	1,960	76,738
Hassayampa River Canyon	21,900	0	280	0	0	0	280	280	22,180
Harquahala Mountains	73,875	0	0	1,200	800	2,000	160	800	74,675
Big Horn Mountains	22,337	0	0	1,100	0	1,100	0	0	22,337
Hummingbird Springs	67,680	0	0	1,000	1,920	2,920	0	1,920	69,600
Saddle Mountain	5,500	0	0	0	0	0	0	0	5,500
Black Mountains/Ives Peak	9,665	0	40	0	640	640	680	680	10,345
Tres Alamos	8,910	0	0	30	0	30	0	0	8,910
TOTALS	643,092	0	320	79,650	9,420	89,070	5,700	9,740	652,832
ENHANCED WILDERNESS									
Wabayuma Peak	36,730	0	0	21,300	3,360	24,660	2,200	3,360	40,090
Aubrey Peak	15,240	230	0	9,420	840	10,260	200	840	16,310
Rawhide Mountains	47,250	200	0	4,760	400	5,160	400	400	47,850
Arrastra Mountain	113,650	0	0	10,600	3,380	13,980	640	3,380	117,030
Lower Burro Creek	22,300	220	0	640	1,980	2,620	0	1,980	24,500
Peoples Canyon	3,480	0	4,160	0	2,680	2,680	3,000	6,840	10,320
Harcuvar Mountains	42,540	0	0	0	640	640	640	640	43,180
Harquahala Mountains	32,635	0	0	0	160	160	160	160	32,795
Big Horn Mountains	21,500	0	0	1,100	400	1,500	0	400	21,900
Hummingbird Springs	24,730	0	0	640	640	1,280	0	640	25,370
Saddle Mountain	5,500	0	0	0	0	0	0	0	5,500
Black Mountains/Ives Peak	7,700	0	3,440	0	2,080	2,080	2,560	5,520	13,220
TOTALS	373,255	650	7,600	48,460	16,560	65,020	9,800	24,160	398,065
LIMITED WILDERNESS									
Arrastra Mountain	78,755	0	0	2,160	20	2,180	20	20	78,775
Lower Burro Creek	19,400	0	0	0	0	0	0	0	19,400
Harquahala Mountains	24,735	0	0	0	0	0	0	0	24,735
Big Horn Mountains	13,010	0	0	640	0	640	0	0	13,010
TOTALS	135,900	0	0	2,800	20	2,820	20	20	135,920

[1] Nonfederal inholdings and contiguous lands proposed by MFPs for acquisition and designation as wilderness.
[2] Contiguous (non-WSA) public lands proposed for wilderness designation.
[3] Nonfederal lands whose mineral rights are owned by the federal government.
[4] Federally owned surface lands whose mineral rights are privately or state owned.
[5] Lands whose surface and mineral rights are privately or state owned.
[6] All mineral rights that BLM will acquire for wilderness management.
[7] The least amount of land BLM must acquire to manage a WSA as wilderness.
[8] All land recommended for acquisition by the MFP, including lands needed for management or enhancement of wilderness values.
[9] Includes suitable WSA acres and contiguous public lands proposed for wilderness designation and all MFP-recommended surface acquisition.

The 11 WSAs total 280,125 acres, 259,245 acres of public land and 20,880 acres of state and private land. The *Proposed Action* recommends acquiring 20,880 surface acres and mineral rights on 42,480 acres for management or enhancement of wilderness resources.

ALL WILDERNESS

The *All-Wilderness* alternative recommends to the Secretary of the Interior that all 18 WSAs be included in the National Wilderness Preservation System. The 18 areas total 652,832 acres, 643,092 acres of public land and 9,740 acres of state and private inholdings. BLM will need to acquire these inholdings and 89,070 acres of mineral rights to ensure wilderness manageability.

ENHANCED WILDERNESS

The *Enhanced Wilderness* alternative recommends that Congress designate all or portions of 12 WSAs. The 12 areas total 398,065 acres, of which 373,905 acres are public land. The remaining 24,160 acres are state and private lands that BLM would need to acquire for wilderness management or enhancement. In addition, BLM would need to acquire 65,020 acres of mineral rights. The *Enhanced Wilderness* alternative was formulated mainly in response to public comment critical of some boundary changes in the MFP Step 2 decision *(Proposed Action)*. These comments considered some MFP boundary placements as either detrimental to wilderness resources or not conducive to effective wilderness management. BLM addressed these concerns by changing the boundaries of five units to include acreage not recommended by the *Proposed Action*. Furthermore, BLM managers developed a manageable boundary for a unit not included in the *Proposed Action* but considered to have important wilderness values.

LIMITED WILDERNESS

The *Limited Wilderness* alternative recommends portions of four WSAs (135,920 acres) for wilderness designation. The four areas have exceptional wilderness character and few conflicts with other resources. Moreover, they can be effectively managed as wilderness with the acquisition of only 20 surface acres and 2,820 acres of mineral rights.

NO WILDERNESS (NO ACTION)

No Wilderness would recommend returning all 18 WSAs – 643,092 acres – to full multiple-use management, not recommending any areas for wilderness designation. The Interim Management Policy would apply until Congress releases these areas. The EIS area's future long-term management would be based on existing use patterns and MFP recommendations for resource management.

Unit Description by Alternative

This section discusses each of the 18 WSAs by alternative. The *No Wilderness* alternative is not discussed for any WSA, since it would involve neither the benefits nor the adverse impacts of designation.

WABAYUMA PEAK (2-37/43) 36,730 ACRES

Proposed Action. The Hualapai-Aquarius MFP recommends 11,145 acres of the Wabayuma Peak WSA (Map 2-1) as suitable for wilderness designation. The WSA's boundaries would be changed to lessen or end some manageability problems resulting from surface and mineral ownership, while retaining the area's highest wilderness, ecological, and wildlife values. Boundary changes would reduce the surface area needed to be acquired from 3,360 to 1,360 acres and reduce mineral rights needed to be acquired from 23,020 to 6,080 acres.

The MFP recommends acquiring 1,360 acres of private inholdings and adjacent land with wilderness character. This additional land would bring the area involved under the *Proposed Action* to 12,505 acres. If BLM cannot acquire all surface and mineral rights identified by the MFP as critical for successful management, the WSA would not be suitable for wilderness designation.

All Wilderness. *All-Wilderness* recommends the entire Wabayuma Peak WSA (36,730 acres) as suitable for wilderness designation. To ensure wilderness manageability, BLM would have to acquire surface and mineral rights on 1,720 acres of private inholdings with wilderness character and 21,300 acres of mineral rights. With the addition of these surface lands, the *All-Wilderness* alternative for Wabayuma Peak would involve 38,450 acres.

Enhanced Wilderness. *Enhanced Wilderness* would also recommend wilderness designation for the entire Wabayuma Peak WSA (36,730 acres). To ensure wilderness manageability, BLM would have to acquire 3,360 acres of private inholdings and adjacent land having wilderness character, including their mineral rights and 21,300 additional acres of mineral rights. With the addition of private lands, the *Enhanced Wilderness* alternative for Wabayuma Peak would designate 40,090 acres.

Limited Wilderness. *Limited Wilderness* would recommend Wabayuma Peak as nonsuitable for wilderness designation because too many surface and mineral rights would need to be acquired. Alternative boundaries with less acreage than under the *Proposed Action* would lessen the area's overall wilderness value and manageability.

PLANET (2-53) 12,765 ACRES

Proposed Action. The Hualapai-Aquarius MFP recommends Planet WSA (Map 2-2) as nonsuitable for wilderness designation because of potential conflicts and manageability problems resulting from checkerboarded mineral rights. Sixty-two percent (7,040 acres) of the WSA's mineral rights are nonfederal, and 87 mining claims occupy 35 percent of the federal mineral estate.

The unit is relatively small and surrounded by existing and proposed utility corridors. The wilderness study determined that higher quality wilderness values and special features and better scenery and recreation opportunities exist in the adjacent Aubrey Peak WSA. Public enthusiasm for wilderness designation was moderate; most public interest focused on the area's bighorn sheep habitat rather than the area's wilderness characteristics.

All Wilderness. *All Wilderness* would designate the entire Planet WSA (12,765 acres) and require the acquisition of 7,040 acres of mineral rights to ensure wilderness manageability.

Enhanced Wilderness and Limited Wilderness. These alternatives propose no wilderness designation for Planet WSA (see Planet - *Proposed Action).*

AUBREY PEAK (2-54) 15,240 ACRES

Proposed Action. The Hualapai-Aquarius MFP recommends Aubrey Peak WSA (Map 2-2) as suitable for wilderness designation. The wilderness study found that wilderness would be the best use of the area, complementing such other values as wildlife and visual resources. BLM could resolve the problem of 62 percent nonfederal mineral ownership (10,260 acres) by acquiring these rights. Without these mineral rights, the area would not be manageable as wilderness.

The MFP recommends acquiring 840 acres of state surface and closing a road to permit the inclusion of 230 acres of public land outside the WSA. Adding these parcels to the WSA would improve its manageability, increase its wilderness values, and enlarge to 16,310 acres the total area designated under the *Proposed Action.*

All Wilderness. The *All-Wilderness* alternative recommends the entire Aubrey Peak WSA (15,240 acres) as suitable for wilderness designation. To ensure wilderness manageability, BLM would try to acquire 200 acres of state surface and mineral rights and 9,420 acres of mineral rights, increasing the total area to 15,440 acres.

Enhanced Wilderness. This alternative is identical to the *Proposed Action* (See Aubrey Peak - *Proposed Action*). No opportunities exist to enhance the WSA proposal beyond the actions described under the *Proposed Action.*

Limited Wilderness. This alternative proposed Aubrey Peak WSA as nonsuitable for wilderness designation because the checkerboard pattern of mineral rights limits BLM's ability to manage the area as wilderness.

BLACK MESA (2-56) 17,010 ACRES

Proposed Action. The Hualapai-Aquarius MFP recommends Black Mesa WSA (Map 2-2) as nonsuitable for wilderness designation because of potential conflicts with mineral development and the checkerboard pattern of mineral ownership. Fifty-three percent (9,020 acres) of the mineral rights are nonfederal. Neither the wilderness nor complementary values merit wilderness designation, especially when considering the adjacent Arrastra Mountain and Aubrey Peak areas, which the MFP recommends as suitable. The public showed little interest for wilderness designation.

All Wilderness. *All Wilderness* would designate as wilderness all of Black Mesa WSA (17,010 acres) and require the acquisition of 9,020 acres of mineral rights for successful wilderness management.

Enhanced Wilderness. *Enhanced Wilderness* proposes Black Mesa WSA as nonsuitable for wildernes designation because of an absence of public support, a lack of exceptional wilderness values, and nonfederal mineral rights conflicts.

Limited Wilderness. The *Limited Wilderness* alternative recommends Black Mesa WSA as nonsuitable for wilderness designation (see Black Mesa - *Proposed Action*).

RAWHIDE MOUNTAINS (2-58) 62,300 ACRES

Proposed Action. The Lower Gila North MFP recommends wilderness designation for 17,600 acres of the Rawhide Mountain WSA (Map 2-3). This area includes a 12-mile stretch of the Bill Williams River (including 6 miles of gorge) and portions of the Rawhide Mountains to the north and the Buckskin Mountains to the south. This reduction in the area to be designated from 62,300 acres would create a manageable area, incorporating the highest wilderness values and eliminating most resource conflicts. To ensure wilderness manageability, however, BLM would have to acquire up to 2,080 acres of mineral rights.

The wilderness study determined the rest of the WSA to be unsuitable for wilderness designation because of lower wilderness values and manageability problems involving numerous mining claims, off-site land uses, and several large cherrystem boundary exclusions.

All Wilderness. The *All-Wilderness* alternative would designate as wilderness the entire Rawhide Mountains WSA and require the acquisition of 6,360 acres of mineral rights to facilitate wilderness management.

Enhanced Wilderness. *Enhanced Wilderness* would designate as wildernes 47,250 acres of the Rawhide Mountains WSA. To improve the area's manageability and increase its wilderness values, BLM would try to acquire surface and mineral rights on 400 acres of adjacent state and private land and to include 200 acres of adjacent federal land between the two acquired parcels. In addition, BLM would need to acquire 4,760 acres of mineral rights to ensure successful wilderness management. Adding the acquired parcels to the WSA would enlarge the total area covered by the *Enhanced Wilderness* alternative to 47,850 acres.

Limited Wilderness. *Limited Wilderness* recommends the Rawhide Mountains as nonsuitable for wilderness designation. Although the WSA has good wilderness qualities, *Limited Wilderness* would designate WSAs of higher quality with more manageable wilderness values and better ecological integrity.

ARRASTRA MOUNTAIN (2-59) 113,650 ACRES

Proposed Action. The Hualapai-Aquarius and Lower Gila North MFPs recommend that the Arrastra Mountain and Peoples Canyon WSAs (Map 2-4) be combined to form one area and be recommended as suitable for wilderness designation.

This recommendation calls for acquiring 10,140 acres of state and private land with wilderness characteristics to join the two WSAs, ensure wilderness manageability of Peoples Canyon, and enhance wilderness values in both areas. The addition of these acres would give the Arrastra Mountain-Peoples Canyon WSA a total of 125,270 areas.

The Hualapai-Aquarius MFP recommends acquiring surface and mineral rights on 3,300 acres of inholdings and adjacent land and 10,600 acres of mineral rights in the Arrastra Mountain WSA. These lands are integral to blocking up ownership, ensuring manageability, and enhancing wilderness qualities and opportunities along portions of the Santa Maria and Big Sandy Rivers. If BLM cannot acquire all these surface and mineral rights, some portions of the Arrastra Mountain WSA might not be suitable for wilderness designation.

Peoples Canyon WSA is a natural continuation of the Arrastra Mountain WSA's rugged and remote landscape, but the two WSAs are separated by a mile of intervening state land. Because of its small size, Peoples Canyon is not manageable as wilderness. Public support for preservation of the area, however, has been intense because of the area's exceptional wilderness values. BLM recognized this public interest and recommended in the MFP to acquire 4,160 acres of adjacent state surface land and 2,680 acres of state and private surface and mineral rights to make the area manageable and link it to Arrastra Mountain WSA. Not all parcels proposed for acquisition are needed to ensure manageability; only 3,000 acres are critical.

All Wilderness. *All Wilderness* would designate as wilderness the entire Arrastra Mountain WSA. To ensure successful wilderness management, BLM would try to aquire surface and mineral rights on a 640-acre state inholding and a 20-acre private inholding and 10,600 acres of mineral rights.

Enhanced Wilderness. *Enhanced Wilderness* would designate a total area of 127,350 acres, including the 2,000-acre portion of the Arrastra Mountain WSA south of the Santa Maria River that would be excluded under the *Proposed Action. Enhanced Wilderness* also proposes acquiring 80 more acres of adjacent state land than would the *Proposed Action.* Otherwise *Enhanced Wilderness* is the same as the *Proposed Action.*

Enhanced Wilderness was developed because public comment on the MFP questioned the need to drop all 2,000 acres to mitigate potential mineral conflicts. The wilderness value of this area was considered important for preserving and enhancing the WSA's wilderness qualities, since the 2,000-acre parcel would preserve several more miles of secluded Santa Maria river bottom. Furthermore, this area's 600-foot-high cliffs screen most of the WSA above the river from disturbances associated with the nearby Anderson Mine.

Limited Wilderness. This alternative recommends 78,775 acres of Arrastra Mountain WSA as suitable for wilderness designation. Three boundary changes would exclude areas with manageability problems, resource conflicts, or low wilderness values. The northwest corner of the WSA may have manageability problems caused by a checkerboard ownership pattern of mineral rights. A 2,000-acre parcel in the WSA's southeast corner, south of the Santa Maria River, was excluded because of potential mineral development. The extreme northeast boundary was changed to eliminate areas with low wilderness values.

Limited Wilderness proposes acquiring 20 acres of private surface and mineral rights in the WSA's center and 2,160 acres of mineral rights to facilitate wilderness management.

LOWER BURRO CREEK (2-60) 22,300 ACRES

Proposed Action. The Hualapai-Aquarius MFP recommends all of Lower Burro Creek WSA (22,300 acres) (Map 2-5) as suitable for wilderness designation. The acquired surface lands and the inclusion of 220 acres of public land outside the WSA were recommended only to enhance the wilderness values of lower Burro Creek by preserving scenic portions of the adjacent Kaiser Springs Canyon. Including acquired and public lands outside the WSA would increase the area designated wilderness under the *Proposed Action* to 24,500 acres.

BLM can well manage the WSA's wilderness resources because it controls all the WSA's surface and 96 percent of its mineral rights. Moreover, the area has few resource conflicts.

All Wilderness. *All Wilderness* proposes wilderness designation for the entire Lower Burro Creek WSA.

Enhanced Wilderness. *Enhanced Wilderness* is the same as the *Proposed Action* because the WSA proposal cannot be enhanced beyond the measures of the *Proposed Action* (see Lower Burro Creek - *Proposed Action*).

Limited Wilderness. *Limited Wilderness* recommends wilderness suitability for 19,400 acres of Lower Burro Creek WSA. The WSA boundary would be changed to exclude the powerline right-of-way that bisects the area and to exclude all nonfederal mineral ownership. The remaining acreage has exceptional wilderness values, public and multiple resource benefits, and excellent wilderness manageability.

UPPER BURRO CREEK (2-62) 27,390 ACRES

Proposed Action. The Hualapai-Aquarius MFP recommends Upper Burro Creek WSA (Map 2-6) as nonsuitable for wilderness designation because of the area's surface and mineral ownership pattern and resulting manageability problems. Conservationist interest in this area has focused on the wildlife and riparian habitat. BLM, however, could not delineate a manageable area with large portions of the creek, and lands away from the creek lack sufficient wilderness to justify a suitable recommendation.

All Wilderness. *All Wilderness* recommends wilderness suitability for the entire Upper Burro Creek WSA (27,390 acres). BLM would try to acquire surface and mineral rights on a 640-acre state inholding and 6,4000 more acres of mineral rights to better manage the area, giving the WSA a total of 28,030 acres.

Enhanced Wilderness. *Enhanced Wilderness* recommends Upper Burro Creek WSA as nonsuitable for wilderness designation (see Upper Burro Creek - *Proposed Action*).

Limited Wilderness. *Limited Wilderness* recommends Upper Burro Creek as nonsuitable for wilderness designation (see Upper Burro Creek - *Proposed Action*).

PEOPLES CANYON (2-68) 3,480 ACRES

Proposed Action. (See Arrastra Mountain - *Proposed Action.*)

All Wilderness. The *All-Wilderness* alternative proposes wilderness designation for Peoples Canyon (3,480 acres) (Map 2-4) without considering land acquisition or combination with Arrastra Mountain WSA (2-59).

Enhanced Wilderness. (See Arrastra Mountain -*Enhanced Wilderness* alternative.)

Limited Wilderness. This alternative recommends Peoples Canyon as nonsuitable for wilderness designation because of the extensive land acquisition needed to ensure manageability.

BUCKSKIN MOUNTAINS (2-71) 47,582 ACRES

Proposed Action. The Lower Gila North MFP recommends the Buckskin Mountains WSA (Map 2-7) as nonsuitable for wilderness designation because of low wilderness values and lack of public support for wilderness preservation.

All Wilderness. *All Wilderness* proposes wilderness designation for the entire Buckskin Mountains WSA (47,582 acres). To improve wilderness manageability, BLM would try to acquire surface and mineral rights (880 acres) on two state inholdings having wilderness character. Including the acquired land would increase the area designated wilderness under *All Wilderness* to 48,462 acres.

Enhanced Wilderness. This alternative recommends the Buckskin Mountains WSA as nonsuitable for wilderness designation (see Buckskin Mountains - *Proposed Action*).

Limited Wilderness. This alternative recommends the Buckskin Mountains WSA as nonsuitable for wilderness designation (see Buckskin Mountains - *Proposed Action*).

HARCUVAR MOUNTAINS (2-75) 74,778 ACRES

Proposed Action. The Lower Gila North MFP recommends the Harcuvar Mountains WSA (Map 2-8) as nonsuitable for wilderness designation due to the lack of strong public support for wilderness preservation and the presence of similar but higher quality wilderness values and special features in the nearby Harquahala Mountans WSA. The portion of the Harquahalas having these characteristics was found suitable in the MFP.

All Wilderness. This alternative recommends suitability for wilderness designation for the entire Harcuvar Mountains. BLM would try to acquire surface and mineral rights on 1,960 acres of state inholdings with wilderness character and 5,540 acres of state mineral rights to ensure successful wilderness management. The additional surface acquisitions would increase the WSA to 76,738 acres.

Enhanced Wilderness. This alternative recommends wilderness suitability for 42,540 acres of the Harcuvar Mountains and proposes to acquire surface and mineral rights on a 640-acre state inholding having wilderness character. This inholding would increase the WSA's area to 43,180 acres.

An alternative boundary keeping the mountainous core and eliminating most cherrystemmed roads was developed for the *Enhanced Wilderness* alternative. Space was also set aside for needed communication site expansion on Smith Peak. This proposal was brought forth in the possibility that the Harquahala Mountain WSA might be found unsuitable because of resource conflicts. This modified WSA is similar to the Harquahalas and would make a suitable alternative to that area. This manageable area contains few resource conflicts and preserves all of the WSA's recognized wilderness values.

Limited Wilderness. *Limited Wilderness* recommends the Harcuvar Mountain WSA as nonsuitable for wildernes designation (see Harcuvar Mountains - *Proposed Action*).

HASSAYAMPA RIVER CANYON (2-83) 21,900 ACRES

Proposed Action. The Lower Gila North MFP recommends Hassayampa River Canyon WSA (Map 2-9) as nonsuitable for wilderness designation because of manageability problems, resource conflicts, and strong local opposition. The WSA has high wilderness values, but these are not high enough to outweigh other considerations.

All Wilderness. This alternative recommends the entire Hassayampa River Canyon as suitable for wilderness designation but would require acquisition of a 280-acre state inholding to ensure wilderness management. The addition of this acquisition would give this WSA 22,180 acres.

Enhanced Wilderness. *Enhanced Wilderness* recommends the Hassayampa River Canyon as nonsuitable for wilderness designation. BLM considered the interests of conservationists in the plant, wildlife, and wilderness values of the canyon and tried to respond to these concerns but could not delineate a manageable boundary including these values. BLM also considered local opposition to wilderness in making this decision.

Limited Wilderness. The *Limited Wilderness* alternative recommends the Hassayampa River Canyon as nonsuitable for wilderness designation (see Hassayampa River Canyon - *Proposed Action*).

HARQUAHALA MOUNTAINS (2-95) 73,875 ACRES

Proposed Action. The Lower Gila North MFP recommends 26,780 acres of Harquahala Mountains WSA (Map 2-10) as suitable for wilderness designation. The *Proposed Action* would modify the boundaries to exclude resource conflicts and areas of low wilderness value but to preserve nearly all the WSA's high wilderness values.

The suitable portion of the WSA centers on Middle Mountain, and the highest wilderness values occur around Browns Canyon, Dushey Canyon, Sunset Canyon, West Fork, and associated drainages and intervening mountains. A portion of the basin area southeast of Harquahala Peak also lies within this 26,780-acre parcel, including all acreage considered in the wildlife and botanical areas of critical environmental concern.

All Wilderness. The *All-Wilderness* alternative recommends wilderness suitability for the entire WSA (73,875 acres). *All Wilderness* also calls for acquiring two state inholdings (800 acres of surface and mineral rights) having wilderness character and 1,200 acres of mineral rights to ensure successful wilderness management. These acquisitions would increase the WSA's area to 74,675 acres.

Enhanced Wilderness. This alternative recommends wilderness suitability for 32,635 acres in the Harquahala Mountains and proposes acquiring the surface and mineral rights on a 160-acre state inholding to facilitate wilderness management in the WSA's southwest quarter. The additional surface lands would bring the area involved under *Enhanced Wilderness* to 32,795 acres.

The *Enhanced Wilderness* alternative would enlarge the WSA in two areas. It would add the east half of Browns Canyon because public commenters felt that the MFP Step 2 boundary changes would make Browns Canyon difficult to manage as wilderness. The other acreage includes cliff faces and bighorn sheep lambing areas west of Harquahala Peak. Though not critical to wilderness management, this area would improve the WSA's physiographic integrity and protect important wildlife habitat.

Limited Wilderness. This alternative recommends wilderness suitability for 24,735 acres in the Harquahala Mountains. It would change the boundaries recommended by the *Proposed Action* in three areas to exclude claimed areas with potential for mineral development.

BIG HORN MOUNTAINS (2-99) 22,337 ACRES

Proposed Action. The Lower Gila North MFP recommends 21,500 acres of the Big Horn Mountains WSA (Map 2-11) as suitable for wilderness designation, proposing boundary changes totaling 837 acres to exclude possible mineral and right-of-way conflicts.

Wilderness designation would allow primitive recreation and the pursuit of solitude near a large urban center and protect these opportunities for future public enjoyment. Wildlife, cultural resources, and visual resources would also benefit. Public comment supported preserving this easily accessible scenic and wild desert area.

To manage and enhance wilderness resources, the MFP recommends acquiring 400 acres of surface and mineral rights on adjacent private land and 1,100 acres of state mineral rights. The additional surface lands would bring the area involved under the *Proposed Action* to 21,900 acres.

All Wilderness. This alternative recommends wilderness suitability for the entire Big Horn Mountains WSA (22,337 acres). To ensure wilderness manageability, BLM would try to acquire 1,100 acres of mineral rights.

Enhanced Wilderness. This alternative is the same as the *Proposed Action* because no opportunities exist to enhance the WSA's wilderness values.

Limited Wilderness. The *Limited Wilderness* alternative recommends wilderness suitability for 13,010 acres of the Big Horn Mountains. This alternative was developed to exclude mining claims, a possible zone of mineralization, and right-of-way conflicts. This boundary preserves the unit's physiographic integrity and its highest wilderness values. Most acreage that would be removed consists of desert plain and small hills isolated from the WSA's mountains. A total of 640 acres of mineral rights would be needed to ensure wilderness manageability.

HUMMINGBIRD SPRINGS (2-100) 67,680 ACRES

Proposed Action. The Lower Gila North MFP recommends 15,900 acres of Hummingbird Springs WSA (Map 2-11) as suitable for wilderness designation. The suitable area contains the unit's highest wilderness values, can be effectively managed as wilderness, and would benefit a large urban population by preserving nearby natural lands. This alternative would eliminate most resource conflicts.

No inholdings lie within the suitable area, and BLM manages 96 percent (15,260 acres) of the mineral rights. The MFP recommends acquiring 640 acres of state surface and mineral rights and 640 acres of state mineral rights for managing or enhancing wilderness values. The additional surface lands would increase the WSA's size to 16,540 acres.

All Wilderness. This alternative recommends wilderness suitability for the entire Hummingbird Springs WSA (67,680 acres), along with the three state inholdings (1,920 acres of surface and mineral rights) having wilderness character. These inholdings and 1,000 acres of mineral rights need to be acquired to ensure wilderness manageability.

Enhanced Wilderness. This alternative proposes wilderness suitability for 25,370 acres. Public MFP comment questioned the need to greatly change the WSA boundary to achieve a manageable area. *Enhanced Wilderness* addresses these concerns. BLM examined this alternative during the MFP but eliminated it because of conflicts with rancher access to rangeland developments.

This alternative would expand the suitable portion of the WSA to the west, incorporating more desert bajada and mountain ridge, improving opportunities for primitive recreation and the pursuit of solitude, and augmenting the physiographic integrity of the WSA. The eastern boundary would be the same as under the *Proposed Action.*

Enhanced Wilderness proposes acquiring 640 acres of adjacent state surface and mineral rights and 640 acres of state mineral rights to ensure manageability or enhance wilderness values.

Limited Wilderness. This alternative recommends Hummingbird Springs WSA as nonsuitable for wilderness designation. Other WSAs proposed for designation under *Limited Wilderness* offer more recreation and solitude opportunities and better special features and resource benefits than does Hummingbird Springs.

SADDLE MOUNTAIN (2-135) 5,500 ACRES

Proposed Action. The Lower Gila North MFP recommends all of Saddle Mountain WSA (5,500 acres) (Map 2-12) as suitable for wildernes designation. Saddle Mountain has a rare assemblage of wilderness characteristics, including special recreation, geologic, and archaeological values. The public largely supports designation, and Saddle Mountain is highly manageable as wilderness.

All Wilderness and Enhanced Wilderness. These alternatives are identical to the *Proposed Action,* since this WSA proposal cannot be enhanced beyond the recommendations of the *Proposed Action* (see Saddle Mountain - *Proposed Action*).

Limited Wilderness. The *Limited Wilderness* alternative recommends Saddle Mountain WSA as nonsuitable for wilderness designation. BLM recognizes that the area's scenic, recreational, geologic, and archaeological values are exceptional and deserve protection but is concerned with the area's quality as designated wilderness. The outside sights and sounds of human activity are inescapable within the WSA. The presence of a natural area surrounded by developed lands might lessen the unit's wilderness value for many. Other WSAs proposed for designation under *Limited Wilderness* offer better wilderness opportunities. In addition, BLM could develop other management options to preserve the WSA's recognized values for public benefit and enjoyment.

BLACK MOUNTAINS/IVES PEAK (2-204) 9,665 ACRES

Proposed Action. The Lower Gila North MFP recommends 13,220 acres of the Black Mountains/Ives Peak area (Map 2-13) as suitable for wilderness designation. This area includes 5,520 acres of state land with wilderness character. Moreover, 2,080 acres of mineral rights need to be acquired in conjunction with surface rights.

All Wilderness. *All Wilderness* recommends as suitable for wilderness designation the entire Black Mountains/Ives Peak WSA and proposes acquiring one 640-acre state (surface and mineral rights) and one 40-acre private inholding (surface only) to ensure wilderness management. The additional acquisition would increase the WSA's area to 10,345 acres.

Enhanced Wilderness. This alternative is identical to the *Proposed Action,* since the wilderness values of the WSA cannot be enhanced beyond the provisions of the *Proposed Action.* (See Black Mountains/Ives Peak -*Proposed Action.*)

Limited Wilderness. The *Limited Wilderness* alternative recommends the Black Mountains/Ives Peak WSA as nonsuitable for wilderness designation because of the land that must be acquired for successful wilderness management.

TRES ALAMOS (2-205) 8,910 ACRES

Proposed Action. The Lower Gila North MFP recommends Tres Alamos WSA (Map 2-13) as nonsuitable for wilderness designation because of low wilderness values, potential conflict with mineral development, and lack of public support for wilderness preservation of the area.

All Wilderness. This alternative recommends wilderness suitability for the entire Tres Alamos WSA (8,910 acres).

Enhanced Wilderness and Limited Wilderness. These alternatives recommend Tres Alamos WSA as nonsuitable for wilderness designation (see Tres Alamos - *Proposed Action*).

Summary of Impacts

The analysis of the environmental consequences of the *Proposed Action* and alternatives reveals that none of the alternatives would measurably impact soils, climate, topography, geology, vegetation, air quality, wild burros, water resources, or fire management. Impacts, beneficial and adverse, would occur to wilderness, wildlife habitat, land uses, minerals, rangeland management, cultural resources, visual resources, recreation, economic conditions, and social attitudes.

Table 2-2 summarizes impacts by alternative. For a more detailed analysis of impacts, see Chapter 4.

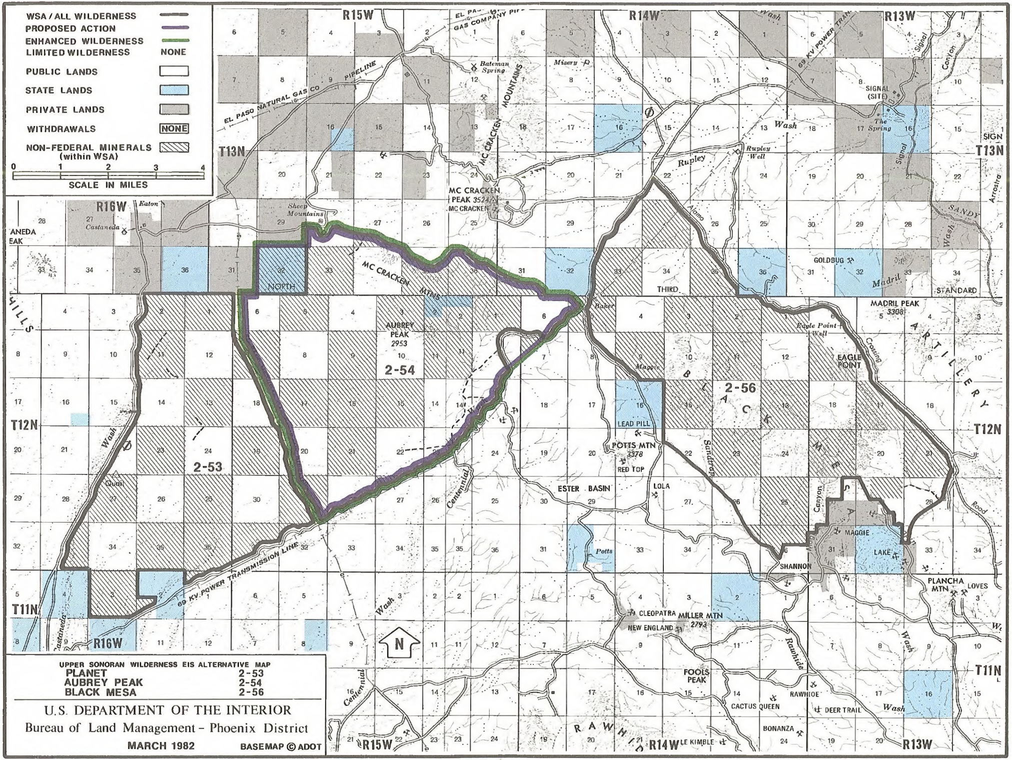
TABLE 2-2
IMPACT SUMMARY TABLE BY ALTERNATIVE

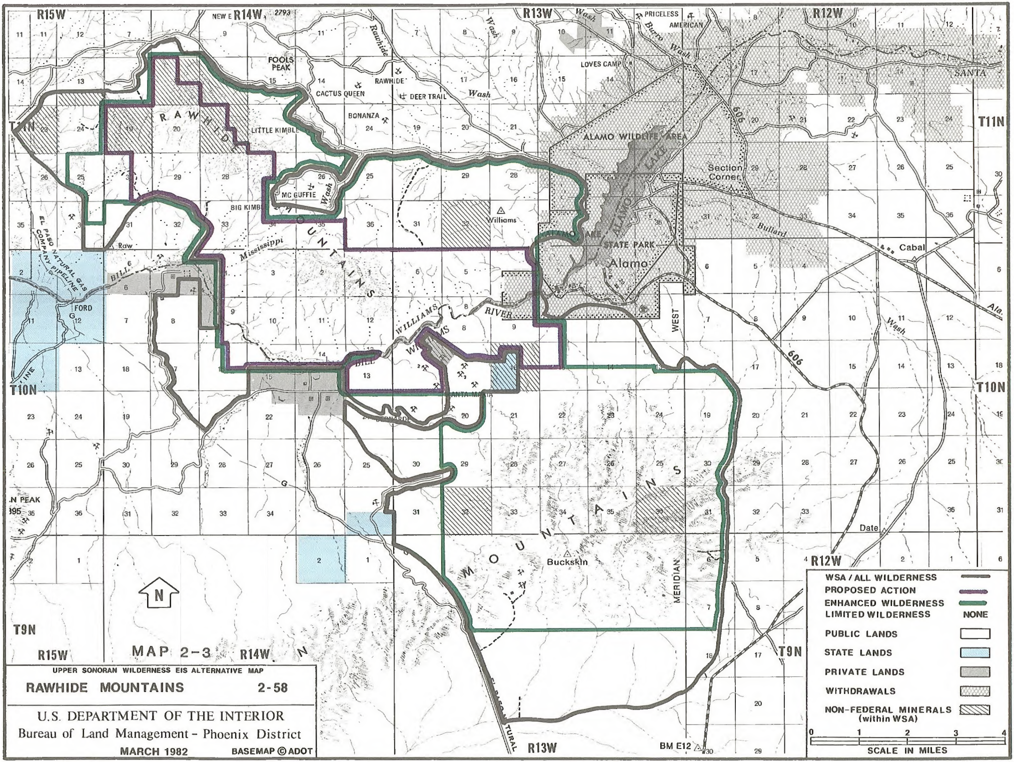
Impacted Resource Elements	Proposed Action	All Wilderness	Enhanced Wilderness	Limited Wilderness	No Wilderness
Wilderness Values*					
WSAs Recommended	11	18	12	4	0
WSAs Not Recommended	7	0	6	14	18
WSA Acres Recommended	280,125	652,832**	398,065	135,920	0
WSA Acres Not Recommended	372,707	0	254,767	516,912	652,832**
Wildlife Habitat Protected (Acres)					
Ponderosa Pine	900	800	900	0	0
Chaparral	12,600	16,100	16,100	5,000	0
Riparian	1,940	2,180	2,040	950	0
Desert Bighorn	58,400	79,730	73,300	31,900	0
Pronghorn Antelope	0	15,500	0	0	0
Desert Tortoise	47,650	76,510	46,450	32,930	0
Land Uses					
Utility Corridors Restricted	7	15	8	2	0
Communication Sites Foregone	2	6	2	1	0
Acres Needed to be Acquired					
Surface Estate Only	7,600	320	7,600	0	0
Mineral Estate Only	29,200	79,650	48,460	2,800	0
Surface and Mineral Estates	13,280	9,420	16,560	20	0
Mineral Exploration and Development					
Favorable and More Favorable Mineral Potential (Acres)	148,305	363,514	217,181	84,326	0
Strategic Minerals	5	5	4	3	0
Mining Claims	1,481	2,219	1,517	772	0
Energy Mineral Potential (Acres)	280,765	652,832	398,065	138,020	0
Rangeland Management					
Allotments Affected	28	41	28	13	0
Intensive Systems Affected	13	17	13	9	0
Less Intensive Systems Affected	3	9	6	1	0
Nonintensive Systems Affected	6	9	5	1	0
Ephemeral Allotments Affected	5	6	4	2	0
Potential AUMs Lost	3,810	9,035	5,744	3,001	0
Cultural Resources Protected					
Sensitive Acres	112,500	245,297	147,730	66,000	0
Visual Resources					
Acres Changed to Class I	280,165	652,832	398,065	135,920	0
Recreation					
Increased Visitor Days	6,200	3,000	6,100	5,550	0
Economic Conditions ($)					
Increased Revenue Not Realized	19,050	45,175	28,720	15,005	0
Increased Ranch Values Not Realized	476,250	1,129,375	718,000	375,125	0
Increased Recreation Revenues	93,000	45,000	91,500	83,250	0
Social Attitudes	No Impact	Adverse	No Impact	No Impact	No Impact

* Wilderness values include solitude, primitive recreation, scenic, and other values protected by wilderness designation.

** All lands within WSA boundaries, including public lands and state and private lands.

MAP 2-2


WSA / ALL WILDERNESS
PROPOSED ACTION
ENHANCED WILDERNESS
LIMITED WILDERNESS NONE
PUBLIC LANDS
STATE LANDS
PRIVATE LANDS
WITHDRAWALS NONE
NON-FEDERAL MINERALS (within WSA)
0 1 2 3 4
SCALE IN MILES
UPPER SONORAN WILDERNESS EIS ALTERNATIVE MAP
PLANET 2-53
AUBREY PEAK 2-54
BLACK MESA 2-56
U.S. DEPARTMENT OF THE INTERIOR
Bureau of Land Management - Phoenix District
MARCH 1982
BASEMAP © ADOT
R16W
R15W
R14W
R13W
T13N
T12N
T11N
2-53
2-54
2-56
N
EL PASO NATURAL GAS CO PIPELINE
EL PASO GAS COMPANY PIPELINE
69 KV POWER TRANSMISSION LINE
MC CRACKEN MOUNTAINS
MC CRACKEN PEAK 3524
MC CRACKEN
MC CRACKEN MTNS
AUBREY PEAK 2953
NORTH
Sheep Mountains
Bateman Spring
Misery
Rupley Wash
Rupley Well
Alamo
SIGNAL (SITE)
The Spring
Signal
Signal Canyon
SANDY Wash
Arrastra
GOLDBUG
Madril
STANDARD
MADRIL PEAK 3308
THIRD
Baker
Maggie
Eagle Point Well
EAGLE POINT
Crossing
ARTILLERY
BLACK MESA
Sandtrap
LEAD PILL
POTTS MTN 3378
RED TOP
ESTER BASIN
LOLA
Potts
Centennial
Wash
Quail
Castaneda
Eaton
HILLS
CASTANEDA PEAK
Canyon
MAGGIE
LAKE
SHANNON
PLANCHA MTN
LOVES
Road
CLEOPATRA
MILLER MTN 2793
NEW ENGLAND
FOOLS PEAK
CACTUS QUEEN
RAWHIDE
Rawhide
DEER TRAIL
BONANZA
LE KIMBLE
RAWHIDE



MAP 2-3

UPPER SONORAN WILDERNESS EIS ALTERNATIVE MAP

RAWHIDE MOUNTAINS 2-58

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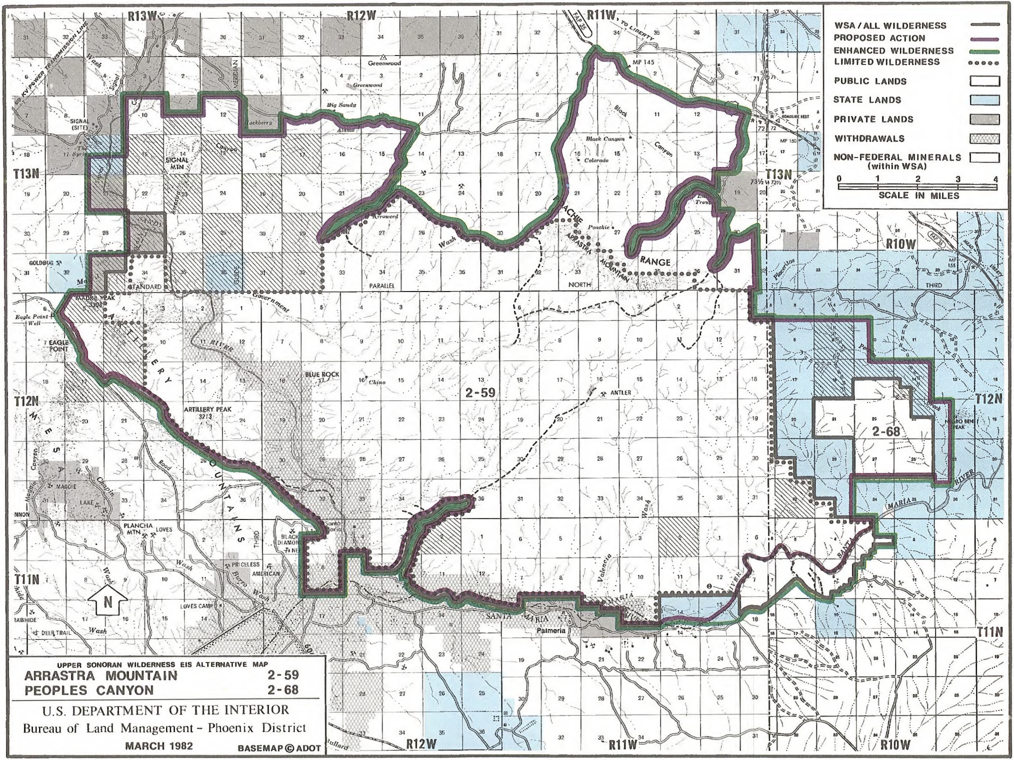
MAP 2-4



UPPER SONORAN WILDERNESS EIS ALTERNATIVE MAP

ARRASTRA MOUNTAIN 2-59
PEOPLES CANYON 2-68

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MARCH 1982

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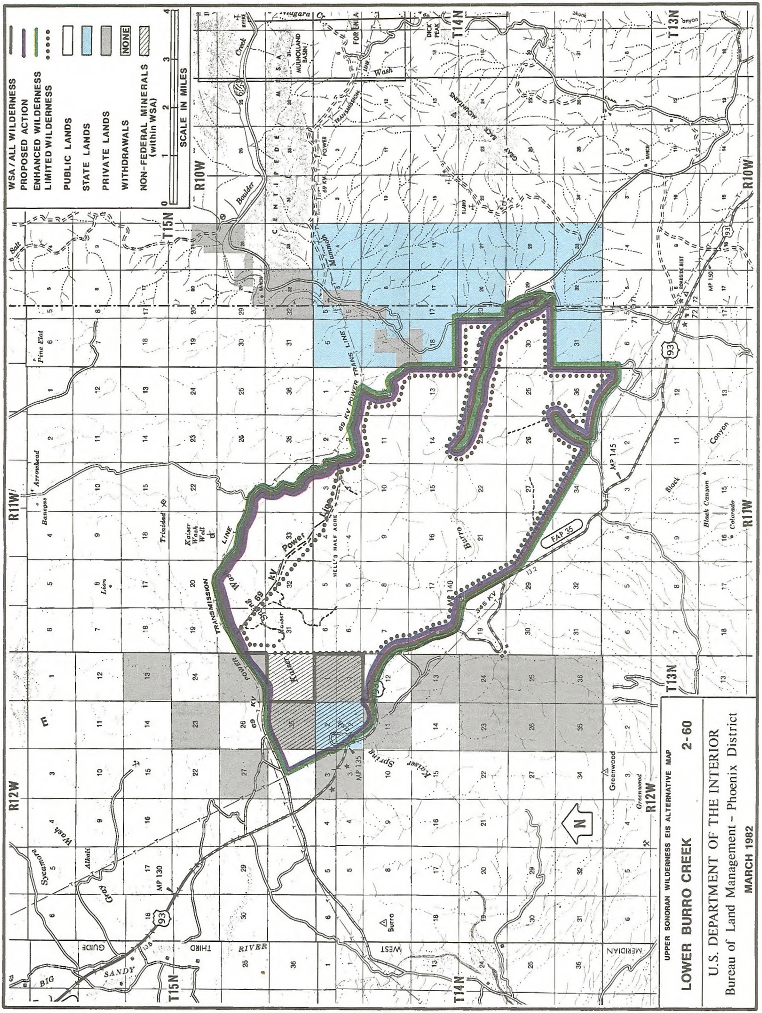
MAP 2-5



UPPER SONORAN WILDERNESS EIS ALTERNATIVE MAP

LOWER BURRO CREEK 2-60

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MARCH 1982

WSA / ALL WILDERNESS
PROPOSED ACTION
ENHANCED WILDERNESS
LIMITED WILDERNESS

PUBLIC LANDS

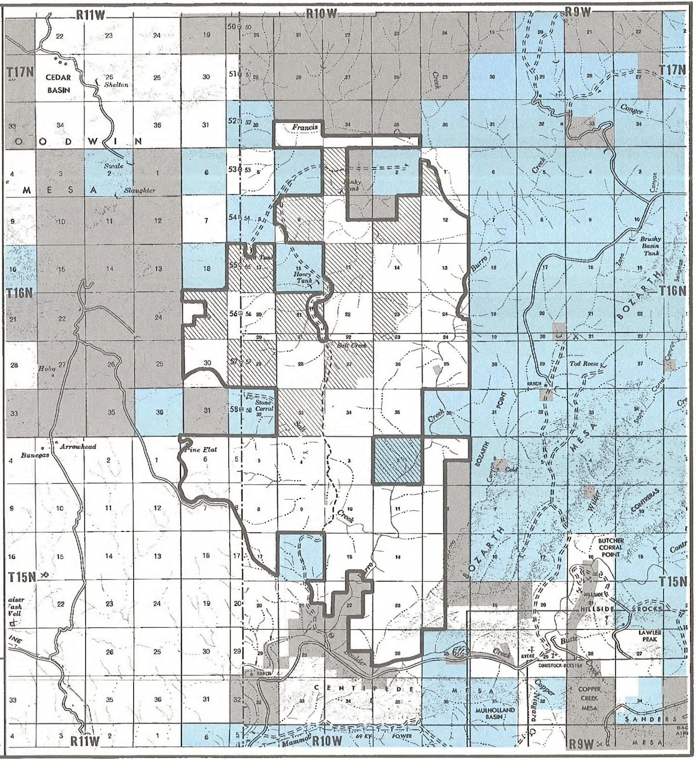
STATE LANDS

PRIVATE LANDS

WITHDRAWALS

NON-FEDERAL MINERA' e
(within WSA)

0 1 2 3 4
SCALE IN MILES



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198
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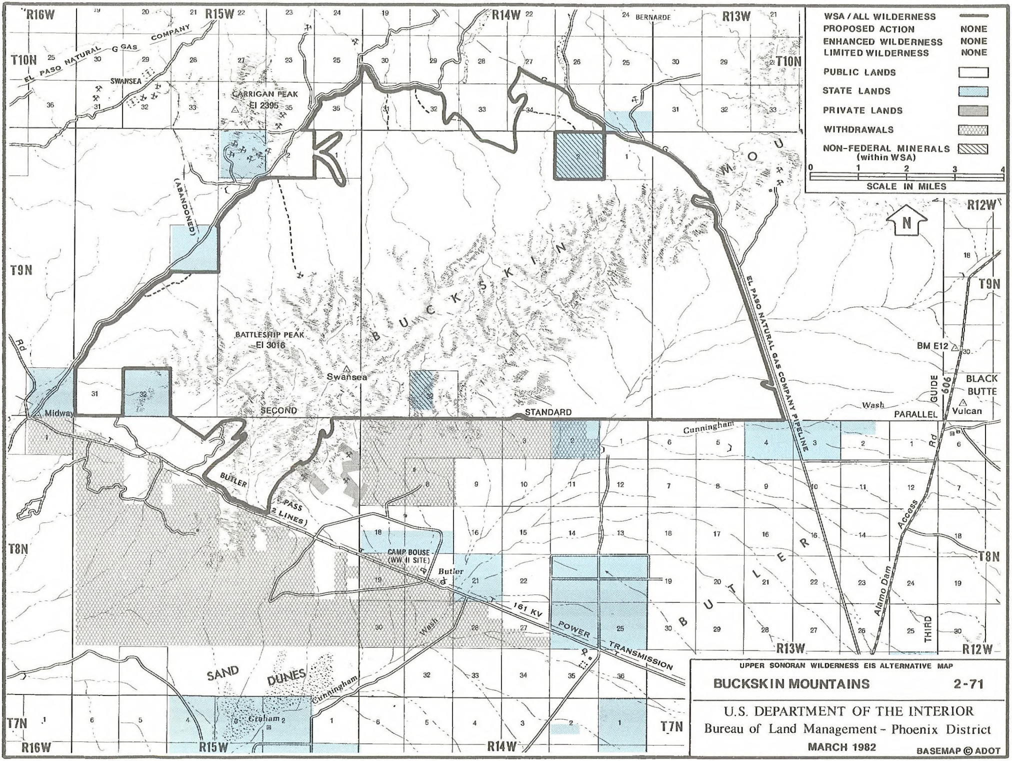
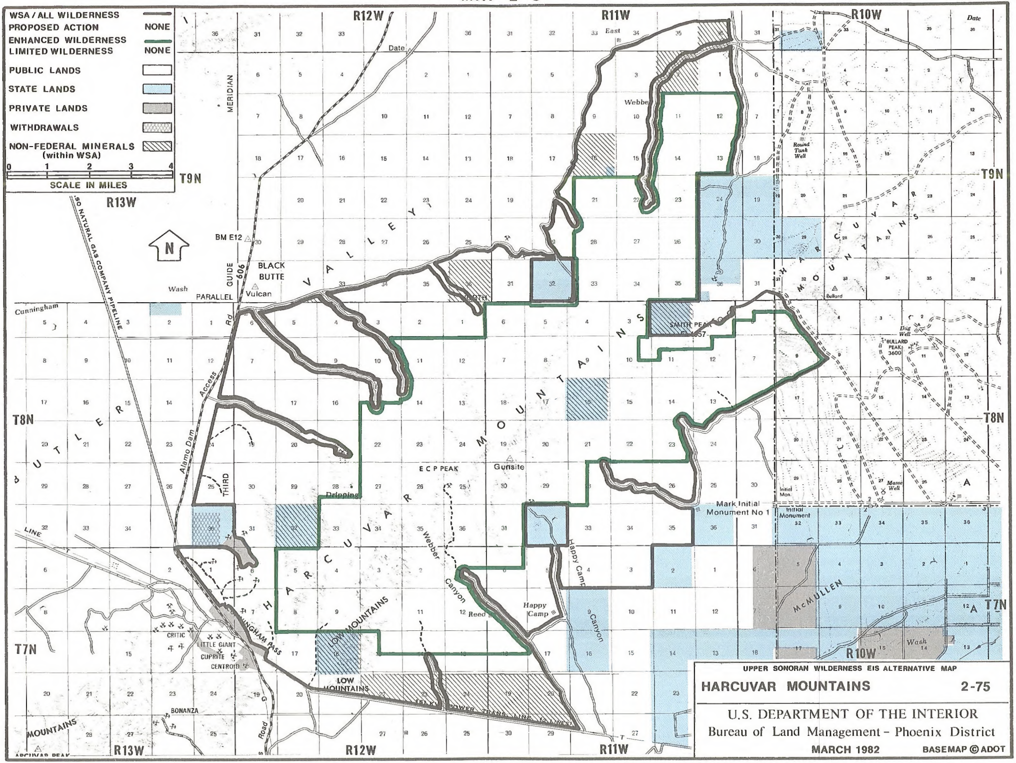
MAP 2-7


WSA / ALL WILDERNESS
PROPOSED ACTION NONE
ENHANCED WILDERNESS NONE
LIMITED WILDERNESS NONE
PUBLIC LANDS
STATE LANDS
PRIVATE LANDS
WITHDRAWALS
NON-FEDERAL MINERALS (within WSA)
0 1 2 3 4
SCALE IN MILES
N
UPPER SONORAN WILDERNESS EIS ALTERNATIVE MAP
BUCKSKIN MOUNTAINS 2-71
U.S. DEPARTMENT OF THE INTERIOR
Bureau of Land Management - Phoenix District
MARCH 1982
BASEMAP © ADOT
R16W
R15W
R14W
R13W
R12W
T10N
T9N
T8N
T7N
EL PASO NATURAL GAS COMPANY
SWANSEA
CARRIGAN PEAK
El 2395
BERNARDE
(ABANDONED)
BATTLESHIP PEAK
El 3016
Swansea
BUCKSKIN MOUNTAINS
EL PASO NATURAL GAS COMPANY PIPELINE
BM E12
BLACK BUTTE
Vulcan
GUIDE 606
PARALLEL
Wash
STANDARD
SECOND
Midway
Rd
Cunningham
BUTLER PASS
(2 LINES)
CAMP BOUSE (WW II SITE)
Butler
161 KV POWER TRANSMISSION
Wash
SAND DUNES
Cunningham
Graham
BUTLER
Access Rd
Alamo Dam
THIRD

MAP 2-8



UPPER SONORAN WILDERNESS EIS ALTERNATIVE MAP

HARCUVAR MOUNTAINS 2-75

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MARCH 1982

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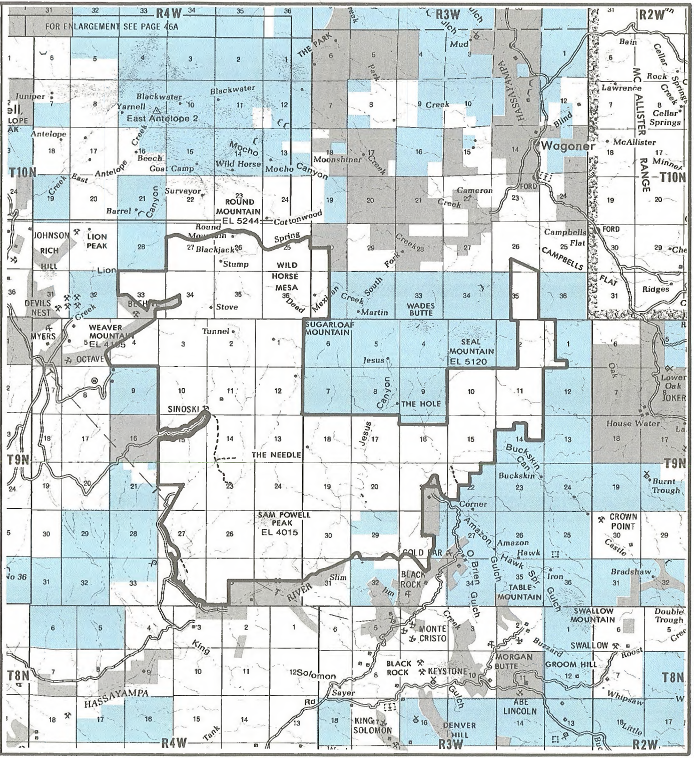
MAP 2-9

WSA / ALL WILDERNESS	▬
PROPOSED ACTION	NONE
ENHANCED WILDERNESS	NONE
LIMITED WILDERNESS	NONE
PUBLIC LANDS	☐
STATE LANDS	🟦
PRIVATE LANDS	▨
WITHDRAWALS	NONE
NON-FEDERAL MINERALS (within WSA)	NONE

0 1 2 3 4
SCALE IN MILES

N



UPPER SONORAN WILDERNESS EIS ALTERNATIVE MAP

HASSAYAMPA RIVER CANYON 2-83

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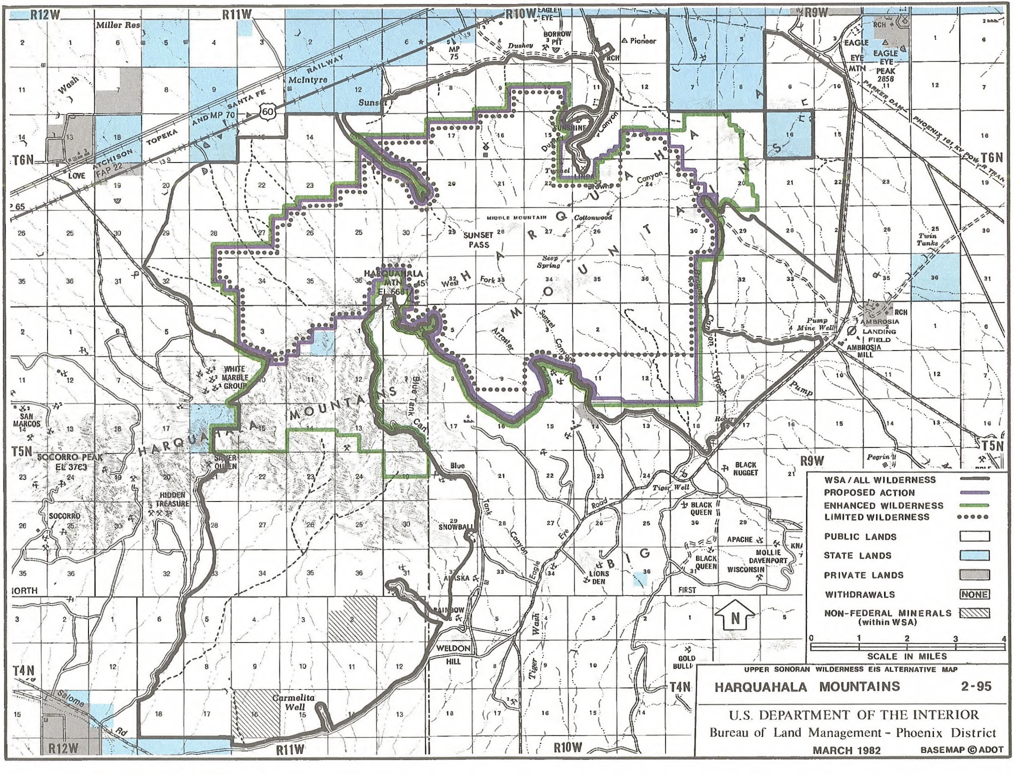
MAP 2-10


WSA / ALL WILDERNESS
PROPOSED ACTION
ENHANCED WILDERNESS
LIMITED WILDERNESS
PUBLIC LANDS
STATE LANDS
PRIVATE LANDS
WITHDRAWALS NONE
NON-FEDERAL MINERALS (within WSA)
SCALE IN MILES
0 1 2 3 4
N
UPPER SONORAN WILDERNESS EIS ALTERNATIVE MAP
HARQUAHALA MOUNTAINS 2-95
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MARCH 1982
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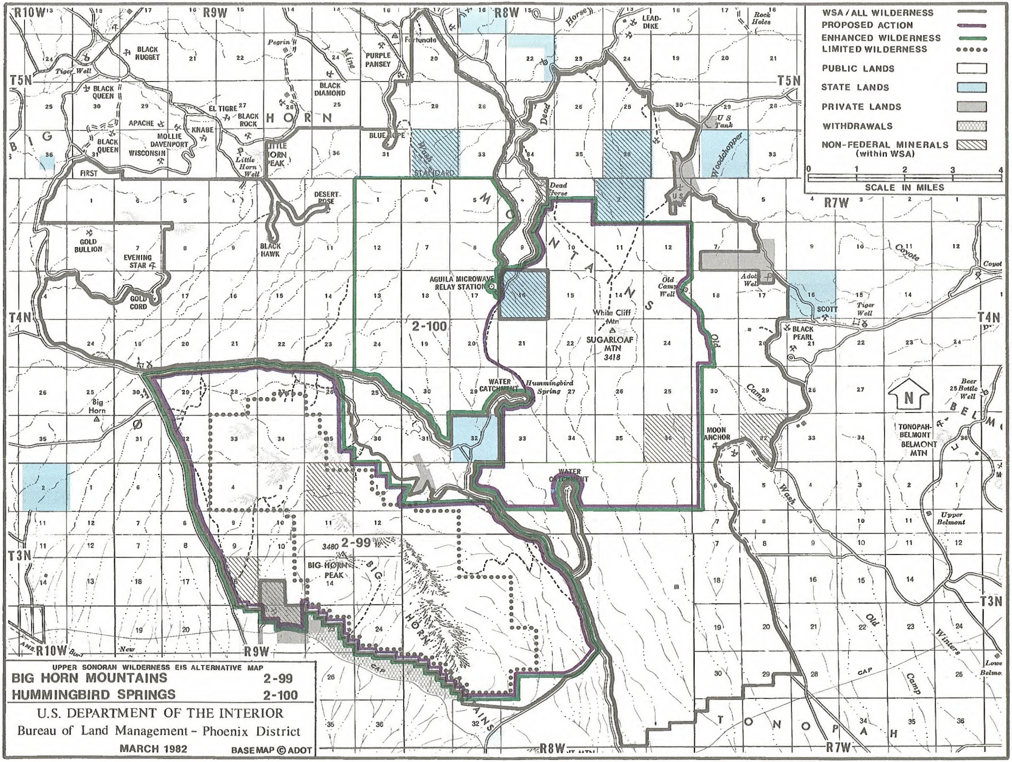
R12W
R11W
R10W
R9W
T6N
T5N
T4N
HARQUAHALA MOUNTAINS
HARQUAHALA MTN EL 5681
SUNSET PASS
MIDDLE MOUNTAIN
BIG HORN
Miller Res
McIntyre
Sunset
ATCHISON TOPEKA AND SANTA FE RAILWAY
MP 70
MP 75
60
FAP 22
LOVE
PARKER DAM - PHOENIX 161 KV POWER TRAN
EAGLE EYE MTN
EAGLE EYE PEAK 2858
BORROW PIT
Pioneer
SUNSHINE
LINDA
Dushey
Tunnel
Browns Canyon
Cottonwood
Seep Spring
West Fork
Arraster
Sunset Canyon
Blue Tank Canyon
Twin Tanks
Pump Mine Well
AMBROSIA LANDING FIELD
AMBROSIA MILL
Pump Roberts
WHITE MARBLE GROUP
SAN MARCOS
SOCORRO PEAK EL 3763
SOCORRO
HIDDEN TREASURE
SILVER QUEEN
SNOWBALL
ALASKA
RAINBOW
WELDON HILL
Carmelita Well
Salome Rd
Eagle Eye Road
Tank Canyon
Tiger Wash
Tiger Well
BLACK NUGGET
BLACK QUEEN
APACHE
MOLLIE DAVENPORT
WISCONSIN
LIONS DEN
FIRST
GOLD BULL
Pegrin

MAP 2-11



UPPER SONORAN WILDERNESS EIS ALTERNATIVE MAP

BIG HORN MOUNTAINS	2-99
HUMMINGBIRD SPRINGS	2-100

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MARCH 1982
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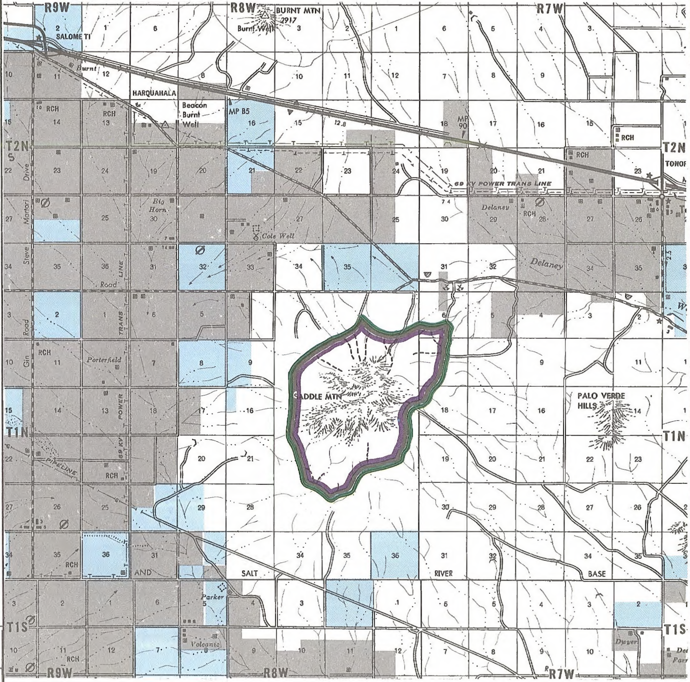
MAP 2-12

WSA / ALL WILDERNESS	━
PROPOSED ACTION	━
ENHANCED WILDERNESS	━
LIMITED WILDERNESS	NONE
PUBLIC LANDS	☐
STATE LANDS	🟦
PRIVATE LANDS	▨
WITHDRAWALS	NONE
NON-FEDERAL MINERALS (within WSA)	NONE

0 1 2 3 4
SCALE IN MILES

N



UPPER SONORAN WILDERNESS EIS ALTERNATIVE MAP

SADDLE MOUNTAIN **2-135**

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MAP 2-13

WSA / ALL WILDERNESS	▬
PROPOSED ACTION	▬
ENHANCED WILDERNESS	▬
LIMITED WILDERNESS	NONE
PUBLIC LANDS	☐
STATE LANDS	🟦
PRIVATE LANDS	⬛
WITHDRAWALS	NONE
NON-FEDERAL MINERALS (within WSA)	▨

0 1 2 3 4
SCALE IN MILES

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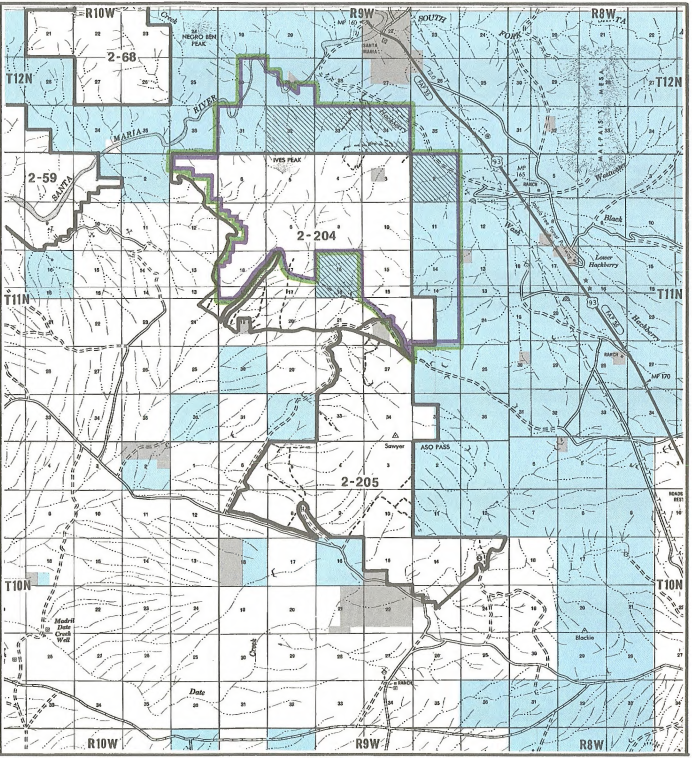

UPPER SONORAN WILDERNESS EIS ALTERNATIVE MAP
BLACK MOUNTAINS-IVES PEAK 2-204
TRES ALAMOS 2-205

U.S. DEPARTMENT OF THE INTERIOR
Bureau of Land Management - Phoenix District
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Chapter 3

AFFECTED ENVIRONMENT

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AFFECTED ENVIRONMENT

Introduction

Chapter 3 briefly describes resources that might be impacted by the alternatives including the *Proposed Action.* Descriptions are only as detailed as needed for the reader to understand the effects of implementing the alternatives. Where impacts to resources would be slight or nonexistent, descriptions are brief or are omitted.

More detailed descriptions of the resources in the EIS area and of regional socioeconomic conditions appear in the planning documents for the three planning areas. Copies of these documents may be reviewed in the Kingman Resource Area Office, Kingman, Arizona and the Lower Gila Resource Area and Phoenix District Offices, Phoenix, Arizona.

Physical Setting

The EIS area lies in west-central Arizona, mostly within the Basin and Range physiographic province. The landforms are typical of this province, consisting of broad desert basins bounded by mountain ranges. The EIS area has nine major mountain ranges. Elevations range from 900 feet near Buckeye in the south to 8,417 feet on Hualapai Peak in the north. Granite mountains dominate the area, along with sedimentary rock outcrops in the western section and scattered basalt mesas. The major drainages in the area are the Hassayampa, Big Sandy, Santa Maria, Bill Williams, and Gila Rivers.

The soils in the EIS area have formed in alluvium and colluvium from various parent materials. The area's hot dry climate has limited the degree of soil development. The soils are generally limited by texture, depth, water-holding capacity, surface rock, and slopes, which contribute to their generally low productivity. The soil erosion hazards vary, depending mostly on slope and texture. No known areas have significant erosion problems.

The EIS area's climate is influenced by tropical Atlantic (Gulf of Mexico) and Pacific air masses during the warm months and by middle latitude storms from the north Pacific during the cooler months. The average annual temperature varies from 59°F at Hillside to 69°F at Tonopah, Buckeye, Alamo Dam, and Bouse. An extreme low of 3°F was recorded at Hillside in January 1966, and an extreme high of 124°F was recorded on the Harquahala Plains, 10 miles northwest of Tonopah in July 1971. The average January temperatures range from 40°F at Hillside to 51°F at Buckeye, and the average July temperatures range from 78°F at Hillside to 92°F at Bouse. The frost-free season ranges from fewer than 180 days in the higher elevations to 260 days in the southern EIS area.

Annual precipitation varies from 5 inches at Bouse to 14.5 inches at Stanton. An annual low of less than 1 inch was recorded at Yucca in 1956, and an annual high of 32 inches was recorded at Stanton in 1965. More than 40 percent of the total precipitation occurs from December through March. Much of the remaining precipitation occurs during heavy thunderstorms from July through October (Sellers and Hill, 1974).

The EIS area is in a Class II air quality region (see Air Quality Classes in Glossary). Most days the air is clear, but winds during spring and summer thunderstorms stir up dust, increase particulate matter in the air, and briefly impair air quality. Moreover, when air currents are moving from southern California into western Arizona, the smog bank is visible along the Colorado River.

Wilderness Values

All WSAs addressed in this EIS are located in west-central Arizona. As of 1981, Arizona had 13 wilderness areas, totaling 997,221 acres (see Appendix 3). In addition, other areas within Arizona are administratively endorsed or undergoing study for possible recommendation to Congress for wilderness designation (see Arizona Wilderness Status Map — back pocket).

All of the WSAs in the EIS area are within a day's driving time of four standard metropolitan stastistical areas (SMSAs). These SMSAs are Phoenix and Tucson, Arizona; Las Vegas, Nevada; and Riverside, San Bernardino, and Ontario, California. The Upper Sonoran WSAs would increase opportunities for solitude and primitive and unconfined recreation for residents of the SMSAs.

The following section describes the wilderness values of each WSA (see Criterion No. 1, Chapter 2) as determined by the wilderness inventory and management framework plans (MFPs).

WABAYUMA PEAK (36,730 ACRES)

Located 15 miles southeast of Kingman in west central Arizona (Map 2-1), Wabayuma Peak WSA is the last remnant — an 11-mile-long section — of pristine Hualapai Mountain pine forest. This unit has a precipitous 5,200-foot elevation rise, five overlapping yet distinct vegetation types, and an interesting transition zone between the Sonoran and Mohave Desert ecosystems. The presence of saguaro cactus and ponderosa pine within the same WSA is striking evidence of the ecological diversity of the area, which contains one of the northernmost stands of saguaro in Arizona. Wabayuma Peak (elevation 7,601 feet) is the dominant landscape feature of the unit.

The WSA's rugged landscape, diverse vegetation, and abundance of spring water provide challenging and interesting opportunities for hiking, backpacking, camping, horseback riding, sightseeing, photography, and viewing plants and animals. The unit provides opportunities to climb from desert terrain into mountain pine forests. Furthermore, the opportunities for seclusion and solitude are good throughout. The unit's large size, rugged topography, and heavy plant cover combine to screen visitors from each other and from evidence of human activities.

The varied vegetation and transitions between plant communities and wildlife habitats provide outstanding opportunities within a relatively small area for the botanist, birdwatcher, and wildlife or ecology student. Three important and sensitive wildlife habitats permit visitors to observe 12 special-status wildlife species.

PLANET (12,765 ACRES)

Planet WSA (Map 2-2) lies in southern Mohave County. Its northern portion consists of a volcanic flow intricately dissected by washes that have cut short narrow canyons. Three large basalt plugs dominate the center of the unit. The WSA's southern part consists of a large, highly dissected hill and wash plain that drains southwest into the Bill Williams River. Vegetation is sparse, consisting of paloverde, saguaro, creosotebush, and smoketree.

The topographic complexity of the basalt peaks, mesas, defiles, and incised washes to the south easily isolates visitors from human sights and sounds. Vast undisturbed vistas in this remote and unvisited area enhance the feeling of solitude. The area remains relatively unintruded and untrammeled by man. Solitude is outstanding across the entire unit. Hiking and backpacking opportunities are excellent because of scenic features and complex, challenging terrain. Wildlife sightseeing opportunities are also good.

The WSA offers the geologist and geologic sightseer a fine opportunity to view the anatomy of a lava flow. Numerous small intricate canyons cut into or through the flow, revealing interesting cross sections.

AUBREY PEAK (15,240 ACRES)

Located in southern Mohave County remote from any population centers, Aubrey Peak WSA (Map 2-2) has a series of rugged volcanic buttes, dikes, plugs, cliffs, and intricate canyons. The unit is a colorful area, whose rocks range from gray to buff to reddish-brown. The elevation rises from 1,800 feet on the southern bajada to 3,221 feet on the highest butte. Vegetation, which is sparse except on the desert bajadas, consists primarily of a paloverde-saguaro community with Joshua trees.

The complexity of the landscape and the area's remoteness increase opportunities for solitude. Hiking, backpacking, photography, and geologic and wildlife sightseeing are outstanding. Scenic views, desert wildlife, interesting volcanic features, and physical challenges of the rugged terrain reward the visitor.

Wildlife, scenic, and geologic values enhance the WSA's wilderness values. A bighorn sheep lambing ground and a variety of other wildlife (including six special-status species) increase Aubrey Peak's scientific, educational, and ecological importance.

Natural windows, spires, overhangs, cliffs, buttes, and slickrock areas combine with the colorful andesite, rhyolite, and basalt to provide magnificent scenery, one of the most dramatic and beautiful landscapes in the EIS area. In addition, the area's evidence of volcanism is of great interest to the geology student and sightseer. Most of the major volcanic rock types occur within this unit.

BLACK MESA (17,010 ACRES)

Black Mesa WSA (Map 2-2) lies in southeastern Mohave County, 5 miles northwest of Alamo Lake. The unit consists of a large volcanic mesa, 6 miles long and 4 miles wide, which slopes gently toward the southwest. The east side's steep walls rise over 900 feet above the hills below. The mesa top is dissected by numerous small canyons that drain to the south and west. Exhibiting a high level of physiographic integrity, the unit includes most of Black Mesa and much of the surrounding desert bajada.

The northern portion of the unit lies within the ecotone between the Sonoran and Mohave Deserts and contains plants from both. Vegetation cover, primarily paloverde and saguaro, varies from sparse to moderate. Most plants grow on the bajadas in the north and along the many arroyos. The unusual Joshua tree is also present.

Opportunities for solitude in the extreme northern and southern portions of the WSA were found to be poor because of mining and roads visible from these areas and because of a lack of topographic screening. Most of the unit, however, provides opportunities for solitude. Numerous canyons cut within the mesa, and heavily eroded volcanic faces provide outstanding potential for solitude. The unit's size, complexity, and natural condition and the absence of vehicular access combine to enhance the wilderness experience.

Black Mesa WSA offers outstanding opportunities for primitive recreation, including hiking, backpacking, and photography. The area's large size and complex terrain provide the hiker and backpacker with many challenges. Several canyons lead up to the mesa top, and many interesting cross-country routes test one's hiking skills. Black Mesa provides excellent birdwatching. Many bird species congregate around Alamo Lake and are seen within the unit. The bajadas and cliff faces in the unit's north and northeast portions support a high density and diversity of raptors, including two special-status species.

RAWHIDE MOUNTAINS (62,300 ACRES)

The Rawhide Mountains WSA (Map 2-3) includes portions of two mountain ranges, the Rawhides to the north and the Buckskins to the south, separated by 12 miles of the Bill Williams River. Over 6 miles of this perennial stream meander through a 600-foot deep gorge, and several rocky side canyons with small waterfalls enter the main canyon within the WSA. The riparian environment supports a variety of plants and animals, including a cottonwood-willow plant community, beaver, and numerous raptors, amphibians, and reptiles.

The Rawhide Mountains are low hills punctuated by numerous rugged outcrops. These hills rise 700 feet to an elevation of 2,430 feet. The mountains are cut by several small washes and canyons, most notably Mississippi Wash, which winds down a narrow canyon with several small waterfalls. The Buckskin Mountains rise from 1,700 feet in Butler Valley to the south to the 3,927-foot high Ives Peak. These mountains are cut by numerous canyons and washes, which drain south to Cunningham Wash and north to the Bill Williams River.

Most of the WSA offers visitors excellent solitude. Several canyons, including the Bill Williams River Gorge, offer opportunities for isolation and seclusion. Several small but dramatic hills, such as Ives Peak, offer solitude and will draw visitors away from the river canyons. The WSA's large size greatly enhances these opportunities. Solitude will not be compromised by evidence of man's presence, except in some areas on the WSA's edge.

The size, varied terrain, and presence of year-round water enhance the wilderness experience of hikers, backpackers, birdwatchers, and photographers. In addition, several peaks and steep canyons challenge the recreationist. The colorful bluffs, sheer outcrops, and riparian community provide an excellent sightseeing or photographic journey. Alamo Lake State Park provides easy access and a staging area for visitors.

Recreation opportunities are not restricted to the river corridor. The badlands in the unit's western portion contain several deep canyons and colorful highly eroded areas. Ravines in this area contain colorful and undisturbed pictographs. Recreation opportunities outside the river corridor and badlands, however, are not nearly as great as within and are more likely to be affected by human imprints within and sights and sounds outside the WSA.

ARRASTRA MOUNTAIN (113,650 ACRES)

The exceptionally large, rugged, remote, and diverse Arrastra Mountain WSA (Map 2-4) extends 10 by 14 miles. The Poachie Mountains trend northwest-southeast in the north-central portion of the unit. The Poachie Range rises to 4,807 feet, 2,000 feet above the bajada to the north, and 2,600 feet above portions of the unit to the south. The east end of the range is dominated by the rugged peaks of Arrastra Mountain. The southern slopes of the range drop gently, cut by numerous washes, many with narrow winding canyons. This slow descent is interrupted by several volcanic hills and mesas, typical of the south-central and west half of the unit. The west and south portions of the WSA contain over 19 miles of two large ephemeral rivers, the Big Sandy and the Santa Maria. The Artillery Mountains steeply rise west of the Big Sandy River, dominated by the striking red visage of Artillery Peak. Both Mohave and Sonoran Desert plants occur, intermixing with the area's extensive riparian communities and providing unusual ecological diversity.

The exceptional quality of the Arrastra Mountain WSA comes from the combination of three elements: (1) the great expanse of undisturbed desert, (2) the area's isolation, and (3) long stretches of Arizona's largest ephemeral desert rivers. This combination provides wilderness values and opportunities unmatched in the EIS area.

The great size of this 113,650-acre desert tract and its isolation from the works of man provide outstanding opportunities for solitude. The variety of landscape features, including interior valleys, densely vegetated hills, mesas, canyons, and river valleys contribute to the excellent opportunities for seclusion and isolation.

The diversity of topographic features provides hikers, backpackers, and other visitors with a variety of experiences and challenges. Moreover, the WSA provides the best opportunity for extensive backcountry travel in the EIS area, allowing trips of several days without backtracking. Visitors can get water from the Big Sandy and Santa Maria Rivers and from seasonal springs and waterholes. Several portions of the WSA also lend themselves well to several-day horseback trips. The presence of water and the diversity of terrain and wildlife allow for outstanding animal sightseeing, particularly birdwatching.

LOWER BURRO CREEK (22,300 ACRES)

Lower Burro Creek WSA (Map 2-5) lies 10 miles southeast of Wikieup. The unit's center consists of an intricately dissected butte, featuring a maze of crags, spires, overhangs, and ridges. Perennial Burro Creek crosses 6 miles of the unit, meandering through an open but often steep-walled canyon. The rugged and colorful terrain, combined with running water, slickrock, and a diversity of plants and animals, produces an area of dramatic visual quality.

The density of isolated canyons, the meandering of Burro Creek, and its riparian vegetation provide outstanding opportunities to avoid the sights and sounds of man. Solitude opportunities are excellent throughout the unit because the rugged topography isolates visitors from one another and contains many scenic attractions that would naturally disperse visitors.

The recreational opportunities are unmatched in the planning area. The area's diverse landforms, vegetation, and wildlife are known throughout Mohave County and receive regular recreational use. The ruggedness of the canyon country and the presence of perennial waters provide outstanding backpacking and hiking opportunities. This area's easy accessibility makes it a favorite of rock collectors and day hikers. The area also provides excellent geologic, plant, and animal sightseeing. The adjacent BLM Burro Creek Campground provides a good staging area for visitors entering Burro Creek Canyon.

Lower Burro Creek contains several supplemental values that enhance its wilderness resources:

- A perennial desert creek that supports 267 species of vertebrates including 150 bird species and 15 special-status species. This concentration of wildlife is rare in a desert area.
- Several historic homestead sites.
- Important archaeological values, including a large prehistoric quarry and evidence of prehistoric habitation. Many institutions, including Arizona State University and the University of Arizona, use this area for scientific and educational purposes.

UPPER BURRO CREEK (27,390 ACRES)

Upper Burro Creek WSA (Map 2-6) lies 18 miles east of Wikieup and 4 miles northwest of Bagdad. Perennial Burro Creek runs the eastern length of the unit through a broad, but deeply incised canyon. The unit's northern portion consists of a large rolling mesa and the rugged tributary canyon of Francis Creek. Vegetation consists of a dense paloverde-saguaro community, an arid grassland, a chaparral-pinyon-juniper mix, and three major riparian communities: cottonwood-willow, mesquite bosque, and mixed broadleaf.

Wilderness values in the WSA are excellent, including unique plant and animal sightseeing opportunities as well as dramatic scenery. The concentration of six major plant communities, representing two life zones, supports highly productive wildlife habitat and creates such unusual plant juxtapositions as juniper and saguaro. At least 267 vertebrate species have been recorded, representing over a quarter of Arizona's wildlife. This wildlife includes 17 special-status species, among them the southern bald eagle. Numerous prehistoric habitation sites give the WSA important archaeological values. Moreover, biologists, educational institutions, and conservation groups throughout Arizona recognize Upper Burro Creek's scientific and education value.

Upper Burro Creek provides outstanding opportunities for hiking, backpacking, and photography. Several canyons of varying size and a complex system of small hills combine to provide a variety of experiences, which are further enhanced by perennial streams and springs.

PEOPLES CANYON (3,480 ACRES)

Peoples Canyon WSA (Map 2-4) consists of a series of perennial springs deep within a colorful rhyolitic canyon. These springs create a rare and lush riparian habitat in the midst of a rugged desert. Scenically noteworthy because of its slickrock, waterfalls, and rock formations, the canyon is also recognized as a special habitat area due to the raptor nesting sites along its cliffs and as a significant botanical area due to its unusual plants. This WSA lies 30 miles northwest of Wickenburg and 5 miles southeast of Arrastra Mountain. Only a half-mile portion of Peoples Canyon itself lies within the unit.

The unit's complex topography gives the visitor a feeling of isolation. Expansive vistas from the higher points in the WSA accentuate the remoteness of the area and provide further opportunities for solitude. Recreation is centered on the short stretch of Peoples Canyon and its lush riparian vegetation. This area offers opportunities for plant and wildlife sightseeing, photography, and observing and studying a virgin riparian community. Outside the canyon environment, visitors can rock climb, explore, and backpack.

A noteworthy assemblage of plants grows in Peoples Canyon, including 10 species not documented elsewhere in the Lower Gila North Planning Area. The canyon's perennial springs feature a deciduous riparian forest of willow, walnut, cottonwood, and sycamore. In addition, the canyon provides nesting sites for prairie falcons and the state-listed (sensitive) zone-tailed hawk. Archaeological values include pictographs and other evidence of use by early Indians.

WILDERNESS VALUES

BUCKSKIN MOUNTAINS (47,582 ACRES)

The Buckskin Mountains WSA (Map 2-7) includes the western portion of the Buckskin Range and a 6-mile portion of desert plain in the Butler Valley. Vegetation in these mountains is sparse, creating the effect of barren hills.

The WSA's large, pristine, and topographically complex interior provides opportunities for undisturbed solitude. Opportunities for primitive recreation, however, are poor because of the monotonous terrain and absence of special features. BLM has identified no notable special features or complementary resources.

HARCUVAR MOUNTAINS (74,778 ACRES)

This large and remote area contains a 12-mile segment of the rugged Harcuvar Mountains and portions of the expansive Butler and McMullen Valleys (Map 2-8). The Harcuvars, with peaks and ridgelines nearly a mile high, rise sharply 2,800 feet from the valley floor. Rapidly descending canyons drain these mountains and deposit outwash at their base, forming gently sloping but deeply dissected bajadas. This WSA is one of the few remaining large and pristine examples of Arizona's Basin and Range physiographic province. These diverse landforms and their plant communities provide habitat for abundant wildlife, including desert bighorn sheep, desert tortoises, and six other special-status species.

Over 70,000 acres of public land containing major portions of the mountain range, associated bajadas, open valleys, and dense desert vegetation make solitude outstanding. Moreover, diverse plants and landforms give the WSA outstanding recreation opportunities. The WSA's size allows extended camping and hiking trips as well as day use. Photographic opportunities abound because of mountain vistas and plentiful desert wildlife.

The WSA contains a rare area of interior chaparral along the north ridgeline of the Harcuvar Mountains, where extensive stands of several native perennial grasses occur. Rarely is this biotic community found in such pristine condition, and this area serves as a valuable comparison for similar sites that are being grazed. Furthermore, this chaparral habitat supports rare groupings of isolated wildlife populations.

HASSAYAMPA RIVER CANYON (21,900 ACRES)

This remote area, 8 miles from Wickenburg, contains 8 miles of a free-flowing ephemeral desert stream, the Hassayampa River (Map 2-9). The river and its dramatic canyon dominate the unit's southeast side, and numerous washes have cut additional side canyons. This section of the WSA is replete with sheer walls, seasonal waterfalls, and cottonwood bottoms amidst the predominant paloverde-saguaro community.

The unit's central portion is somewhat higher than the river, having an average elevation of 3,200 feet. Fools Canyon cuts through this portion of the unit, and Needle and Sam Powell Peaks rise above it. This area supports the paloverde-saguaro vegetation community typical of much of the region.

The highest point in the unit, at 5,395 feet, lies to the north. This northern portion of the unit is a high plateau dominated by chaparral.

Several elements contribute to the WSA's backpacking, hiking, and sightseeing opportunities. The most dramatic features are the Hassayampa River and its canyon. Visitors to the canyon can observe undisturbed riparian habitats while hiking along a free-flowing desert stream. Terrain and ecological diversity are also exceptional for such a relatively small area. Three distinct physiographic zones occur within the WSA, allowing individuals to choose a variety of challenges and observe several biologic zones as they descend 3,000 feet from the unit's highest points to the river.

The WSA's irregular boundary and configuration, resulting from the land ownership patterns, lessen opportunities for solitude along the edge of the area and in portions of the river canyon. Solitude is considered outstanding in the WSA's core and along isolated stretches of the sinuous river canyon because of thick chaparral and the numerous side canyons.

Several wildlife and plant species enhance the WSA's wilderness character. The WSA preserves habitats of 10 special-status wildlife species and two unusual plants: the flannelbush, which is being proposed as a BLM sensitive species, and a small group of Arizona cypress in the unit's northern part.

HARQUAHALA MOUNTAINS (73,875 ACRES)

One of western Arizona's largest desert ranges, the Harquahala Mountains have a diversity of Sonoran Desert plants and animals, including riparian communities. The range's numerous springs support this diversity and provide opportunities unique to the EIS area.

The WSA (Map 2-10) contains the greater mass of the Harquahala Mountains, including Harquahala Peak, which abruptly rises from 1,400 to 5,681 feet – the highest point in southwestern Arizona. The unit includes the range's highest peaks, foothills, and major ridges, canyons, and valleys and a large portion of the surrounding bajada. Many streams drain the mountains, cutting deep canyons, of which Brown's, Dushey, Sunset, and West Fork are the most spectacular.

Brown's Canyon, probably the WSA's most scenic, forms a jumble of granite boulders and lush paloverde-saguaro vegetation. The canyon has a reliable water source, as evidenced by the pockets of cottonwood and willow and by prehistoric petroglyphs. Petroglyphs occur throughout the canyon as do other prehistoric and historic sites. The canyon contains some of the WSA's highest wilderness values.

The large size, complex terrain, and plant cover contribute to solitude. In addition, the Harquahalas are removed from populated centers and remain free of visual and audio pollution. The unit's extensive interior of canyons, outcrops, and hills provides visitors with a sense of seclusion. A large and screened interior is uncommon for most mountains in the Basin and Range physiographic province. The Harquahala Mountains provide outstanding opportunities for hiking, backpacking, photography, and ecological sightseeing.

Special plant, wildlife, and cultural resource features contribute to the WSA's overall value as wilderness. The most important plant and animal values overlap in a basin area southeast of Harquahala Peak. The Harquahalas are the only known desert range with as many wildlife species (139) as riparian communities. The range's ruggedness has protected the area from grazing pressure, creating a pristine native grassland community of at least 21 species. The WSA also contains at least one BLM sensitive species of fishhook cactus.

The WSA provides important habitat for 12 special-status wildlife species, is a major raptor migration area, contains one of the few expanding bighorn sheep populations in Arizona, and has the highest mule deer density in the western Arizona desert.

The WSA has a high concentration of historic and prehistoric cultural sites, including circular stone corrals, a stone cabin, several stone mine structures, a wood cabin, a small adobe homestead, rock art, and native habitation sites. All are in various states of disintegration and are an interesting testimony to the tenuous human use of these mountains.

BIG HORN MOUNTAINS (22,337 ACRES)

Forming the core of this WSA, the Big Horn Mountains (Map 2-11) rise 1,800 feet from the surrounding desert plain. The central mountainous area is surrounded by smaller hills and narrow canyons. The canyons are often less than 20 feet wide as they snake through the mountains. Plant cover is diverse, varying from grasslands on the ridgelines, dense thickets of paloverde and ironwood in the canyons and washes, and dense creosotebush on the flats. In some washes, plant life forms a wall of greenery up to 30 feet high.

This area is a 1.5-hour drive from metropolitan Phoenix. Its wilderness attributes, combined with its closeness to a large urban population, provide accessible and high-quality wilderness near urban centers.

The unit's excellent configuration, topographic diversity, and vegetation screening present excellent opportunities for solitude. The Big Horn Mountains offer a sense of isolation, reinforced by the difficult climb to Big Horn Peak. Numerous side canyons and twisting, densely vegetated washes provide seclusion. From a distance the Big Horn range appears as a singular ridgeline but actually contains six distinctive landscape features. The arrangement of this topography will provide excellent solitude, even after a nearby flood control dike and Central Arizona Project canal are completed.

The Big Horn Mountains present excellent opportunities for many forms of primitive recreation. The rugged ridges challenge hikers, and the side canyons are suitable for easier hikes. The many chimneys and crevices offer a good setting for technical and nontechnical rock climbing. Opportunities for wildlife and scenic photography and studying geology, natural history, and cultural resources (prehistoric sites) are also outstanding. In addition, much of the WSA lends itself well to horseback riding.

HUMMINGBIRD SPRINGS (67,680 ACRES)

Lying 65 miles west of Phoenix, Hummingbird Springs WSA (Map 2-11) is dominated by the colorful 3,418-foot prominence of Sugarloaf Mountain. This picturesque landmark is encircled by a complex series of lower peaks, hills, washes, and desert bajadas. The scenery around Sugarloaf Mountain contributes to the WSA's outstanding wilderness characteristics. Plant cover is diverse, consisting of creosotebush on the flats; dense ironwood, mesquite, and acacia in the washes; and paloverde, saguaro, and other cacti on the unit's higher, more dissected terrain.

The wilderness attributes of Hummingbird Springs, combined with its closeness to a large metropolitan area, provide high-caliber wilderness opportunities near urban populations. Complexity and diversity of landforms in the WSA, large size, and dense desert vegetation provide outstanding opportunities for solitude and for primitive and unconfined recreation. The area can accommodate day hikes as well as extended visits. Rolling desert, low desert mountains, and the steep rise of Sugarloaf Mountain give visitors variety. Hikers can find a range of opportunities from easy to strenuous. Sugarloaf Mountain provides challenging climbs. The WSA also offers excellent opportunities for horseback riding. The terrain is diverse enough to accommodate beginners as well as the experienced horse and rider.

SADDLE MOUNTAIN (5,500 ACRES)

Saddle Mountain (Map 2-12) is a striking volcanic upthrust, a highly visible and educational example of geologic forces. An hour's drive from metropolitan Phoenix, Saddle Mountain is a familiar landmark to travelers in the area and is perhaps the most accessible and well known WSA in the EIS area. Contrasted by surrounding roads, farmlands, powerlines, and a nuclear power plant, the WSA's pristine condition is even more conspicuous.

Saddle Mountain was earmarked as a potential satellite area to the Maricopa County Regional Park System as early as 1958 and has been subject to various BLM considerations ever since. The 1971 recreation inventory of the Vulture Planning Area recommended designating 9,353 acres as an outstanding natural scenic area to be withdrawn from mineral entry. Over the years, however, the area's size has steadily diminished (13,000 acres) through peripheral road and trail building in the surrounding flatlands. Saddle Mountain's dramatic visibility and closeness to Phoenix have given it much public attention. BLM's MFP public participation process revealed strong conservation interest in the area.

Saddle Mountain has long been recognized for the quality and diversity of its recreational opportunities and its unusual assemblage of wilderness, geologic, and archaeological values. The area is noted by rock collectors for its chalcedony and fire agate, is a popular picnicking and camping area, and has excellent scenery. Rock climbers are challenged by the mountain's dangerous traverses and crumbly rock. Day hiking opportunities are superb.

Cultural resource and geologic features contribute to the wilderness values. The area has several archaeological sites with rock art.

Nearby farmlands, highways, powerlines, and power plants can be seen and planes and machinery can occasionally be heard from the unit. These impacts are not totally avoidable. Higher quality opportunities for solitude occur elsewhere in the EIS area, but opportunities are good, considering Saddle Mountain's closeness to developed lands and population centers.

BLACK MOUNTAINS/IVES PEAK (9,665 ACRES)

Black Mountains/Ives Peak WSA's (Map 2-13) secluded and intricate interior is partially encircled by a 6-mile segment of the Black Mountains, a ridge interspersed by short deep canyons, cliffs, and two prominent peaks — Ives Peak and Violas Peak — which rise to elevations of 4,072 and 3,832 feet respectively. Several small isolated hills dot the landscape to the south and west of the main ridgeline. The south-central part of the WSA consists of a bajada. Vegetation within the unit primarily consists of paloverde and saguaro on the slopes and Joshua trees and creosotebush on the flats.

The WSA's remote location and steep, rugged, and aesthetic cliffs provide outstanding opportunities for solitude and several types of primitive recreation. The vast natural landscape surrounding the WSA accentuates the wilderness attribute of solitude. This feeling of isolation is only compromised by man's influence in the southern part of the WSA.

The primary recreation opportunities are for hiking and backpacking, and colorful vistas of numerous mountain ranges provide excellent photographic opportunities. Rock climbing and scrambling possibilities exist on Violas and Ives Peaks and in many of the precipitous escarpments and cliffs on the east and north sides of the WSA.

TRES ALAMOS (8,910 ACRES)

The Tres Alamos WSA (Map 2-13) encompasses a scenic southern portion of the Black Mountains, including Sawyer Peak, the range's highest point at 4,293 feet. Sawyer Peak rises dramatically 2,000 feet above a desert plain. The unit's most striking feature, however, is the colorful monolith of Tres Alamos.

Composed of basalt, colorful andesite, and tuff, the Black Mountains, along the eastern side of the WSA, have an interesting topographic arrangement of ridgelines, canyons, and washes, which descend to a desert plain. Date Creek carves a 200-foot gorge through the hills in the southern part of the unit, whereas the unit's western side consists mainly of lower desert bajada and plain. Saguaro and paloverde cover the hills and bajadas, Joshua trees and creosotebush dot the plains, and mesquite and acacia line the washes.

Opportunities for outstanding solitude are best found within a small system of canyons and ridges near the Tres Alamos Cliffs, along Date Creek Canyon in the southern portion of the WSA, and in the dense vegetation in washes. Opportunities for solitude decrease outside these areas due to sparse vegetation and flat terrain.

No recognized outstanding recreation opportunities exist because of the unit's small size, lack of challenges, and absence of special features or opportunities unique to this area.

Wildlife Habitat

The WSAs in the EIS area contain over 20 kinds of wildlife habitats from the pine oak mountains of Wabayuma Peak to the creosotebush flats near the Rawhide Mountains and the lush riparian growth along parts of upper Burro Creek. Such a variety of habitats has resulted in a wealth of wildlife inhabitants — over 350 species. The great diversity of habitats affords use by more species of raptors (birds of prey) than any other public land administered by BLM.

The following sections discuss only wildlife or habitats expected to be significantly impacted by wilderness designation and management.

Wabayuma Peak. Three important habitats occur in Wabayuma Peak WSA: ponderosa pine-Gambel oak, chaparral, and riparian.

The Hualapai Mountain meadow mouse *(Microtus mexicanus hualapaiensis)* occurs only in the ponderosa pine-Gambel oak of the Hualapai Mountains. This mammal is on the BLM sensitive species list because impacts to its habitat may result in a federal or state listing (see Table 3-1). The meadow mouse habitat is sensitive to the removal or alteration of vegetation it needs for food and cover.

Other significant wildlife using ponderosa pine-Gambel oak, chaparral, and riparian habitats are elk (only rarely), the state-listed Gilbert's skink, Sonoran mountain kingsnake, and zone-tailed hawk. The spotted owl, goshawk, golden eagle, sharp-shinned hawk, and merlin are BLM sensitive species (see Table 3-1). These species can benefit or be harmed by protection from or allowance of surface disturbance in their habitats and by changes in vehicle or visitor use around springs, seeps, and cliffs.

Planet. Planet WSA has crucial habitat of two big-game species: desert bighorn sheep and pronghorn antelope. Bighorn habitat occupies less than 1,300 acres next to the Aubrey Peak bighorn habitat. The Planet habitat is also used by bighorns inhabiting the Buckskin Mountains. Pronghorn antelope occupy about 1,800 acres in the lower elevations of the WSA. The pronghorns are part of a herd using the Planet Ranch allotment but are separated by 40 miles from the nearest pronghorn habitat. Table 3-1 lists other important wildlife in the WSA.

Aubrey Peak. Desert bighorn sheep occupy over 13,700 acres of crucial habitat in Aubrey Peak WSA. Bighorns are easily impacted by surface disturbance and tend to avoid concentrated human use, construction, and mining. Human occupation or concentrated activity around springs can cause bighorns to abandon large areas because water is one of the major limiting factors to bighorn populations. Other important wildlife are listed in Table 3-1.

Black Mesa. Table 3-1 shows the important species occurring in Black Mesa WSA.

Rawhide Mountains. The Rawhide Mountains contain 1,200 acres of crucial desert tortoise habitat. The tortoise is susceptible to heavy grazing and to losses from off-road vehicle use and surface disturbance that reduce existing habitat. Habitat reserves of fewer than 6,000 acres may not be able to support lasting tortoise populations.

Riparian and aquatic habitat along the Bill Williams River encompasses 600 acres and stretches nearly 12 miles. Such habitat supports 9 of the 16 important wildlife species in the WSA (Table 3-1). All the species are susceptible to surface disturbance, which destroys habitat and may kill individuals or interfere with reproduction.

Arrastra Mountain. Arrastra Mountain WSA contains over 24,400 acres of crucial desert tortoise habitat – probably the largest block of tortoise habitat in the EIS area. Moreover, it has one of the largest riparian habitat areas of the EIS area's WSAs (760 acres), supporting many special-status species.

Lower Burro Creek. Lower Burro Creek WSA has over 3,300 acres of crucial desert tortoise habitat and over 350 acres of riparian habitat, especially important to black hawks and wintering bald eagles. The riparian habitat is in fair to poor condition and in critical need of improvement.

Upper Burro Creek. Upper Burro Creek WSA has over 800 acres of riparian habitat and 13,700 acres of crucial pronghorn grassland habitat on Goodwin Mesa. If the riparian habitat does not improve, several special-status species may disappear from the area. More special-status species occur here than in any of the other WSAs (Table 3-1).

Peoples Canyon. Peoples Canyon WSA contains 90 acres of riparian habitat in a nearly natural state and with a good mix of species. This area may be the site of a desert bighorn reintroduction.

Buckskin Mountains. Buckskin Mountains WSA contains a large block of crucial desert tortoise habitat (Table 3-1) but has few other special-status species.

Harcuvar Mountains. Harcuvar Mountains WSA contains an isolated tract or "island" (3,500 acres) of chaparral 16 miles from the nearest similar island and about 45 miles from the nearest large block of chaparral habitat. These islands support unique wildlife assemblages that have been isolated for thousands of years.

Hassayampa River Canyon. The Hassayampa River Canyon WSA includes over 250 acres of riparian habitat and 7 miles of aquatic habitat supporting species listed in Table 3-1.

Harquahala Mountains. Harquahala Mountains WSA supports nearly 37,000 acres of desert bighorn crucial habitat, nearly 15,000 acres of desert tortoise habitat, 5,000 acres of chaparral, and 10 acres of riparian habitat. Many special-status species use this WSA. Its higher elevations are nearly natural and reflect outstanding habitats in good or excellent condition. Just outside the WSA, however, mining, construction, and burro use are disturbing wildlife habitats.

Big Horn Mountains. The Big Horn Mountains WSA has 7,700 acres of desert bighorn habitat next to the Hummingbird Springs WSA. Golden eagles, prairie falcons, and Gila monsters also inhabit the area.

TABLE 3-1
SPECIAL-STATUS WILDLIFE

Special Status Species	Listed By[1]	Category[2]	Wabayuma Peak	Planet	Aubrey Peak	Black Mesa	Rawhide Mountains	Arrastra Mountain-Peoples Canyon	Lower Burro Creek	Upper Burro Creek	Buckskin Mountains	Harcuvar Mountains	Hassayampa River Canyon	Harquahala Mountains	Big Horn Mountains	Hummingbird Springs	Saddle Mountain	Black Mountains/ Ives Peak	Tres Alamos
Bald Eagle	F, S	E, II	—	—	—	—	X	X	X	X	—	—	—	—	—	—	—	—	—
Peregrine Falcon	F, S	E, II	—	—	—	—	0	0	0	0	—	—	—	—	—	—	—	—	—
Gilbert's Skink	S	II	X[3]	—	—	—	0	X	X	X	—	X	0	X	—	—	—	—	—
Desert Bighorn Sheep	S	III	—	—	X	—	X	—	—	—	—	0	—	X	X	X	—	—	—
Spotted Bat	S	III	0[3]	—	—	—	0	0	0	0	—	—	0	0	—	—	—	—	—
Great Egret	S	III	—	—	—	—	0	0	0	0	—	—	0	—	—	—	—	—	—
Snowy Egret	S	III	—	—	—	—	0	0	0	0	—	—	0	—	—	—	—	—	—
Black-Crowned Night Heron	S	III	—	—	—	—	0	0	0	0	—	—	0	—	—	—	—	—	—
Zone-Tailed Hawk	S	III	X	—	—	—	0	X	X	X	—	—	0	—	—	—	—	—	—
Black Hawk	S	III	—	—	—	—	0	0	X	X	—	—	0	—	—	—	—	—	—
Desert Tortoise	S	III	—	0	0	0	X	X	X	—	X	0	—	X	—	X	—	—	—
Gila Monster	S	III	0	0	0	0	0	0	X	0	—	0	0	0	0	0	0	0	0
Sonoran Mountain Kingsnake	S	IV	X	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Kit Fox	BLM	S	—	0	0	—	0	—	—	—	0	0	—	0	—	0	—	—	—
Ferruginous Hawk	BLM	S	—	—	—	—	—	—	—	0	—	—	—	—	—	—	—	—	—
Goshawk	BLM	S	X	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sharp-Shinned Hawk	BLM	S	X	—	—	—	—	—	—	0	—	—	—	X	—	—	—	—	—
Golden Eagle	BLM	S	X	—	0	0	X	X	X	X	—	—	X	X	0	0	0	X	0
Prairie Falcon	BLM	S	—	—	0	0	X	X	X	0	—	X	X	X	X	0	0	X	X
Merlin	BLM	S	0	—	—	—	—	—	—	0	—	0	—	X	—	—	—	—	—
Arizona Night Lizard	BLM	S	X	—	—	—	—	0	X	0	—	—	—	0	—	—	—	—	—
Desert Rosy Boa	BLM	S	X	0	0	—	0	X	X	0	—	X	—	X	—	—	—	—	—
Spotted Owl	BLM	S	X	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total Species	23		12	4	7	4	16	15	15	17	2	8	10	12	4	6	3	3	3

[1] F = US Fish and Wildlife Service; S = Arizona Game and Fish Department; BLM = Bureau of Land Management.

[2] E = Endangered; S = Sensitive;
II = Species or subspecies in danger of being eliminated from Arizona;
III = Species or subspecies whose status in Arizona may be in jeopardy in the foreseeable future;
IV = Species or subspecies of special interest because of limited distribution in Arizona;

[3] X = Verified; 0 = Probable.

Crucial bighorn sheep habitat occurs in the Planet, Aubrey Peak, Harquahala Mountains, Big Horn Mountains, and Hummingbird Springs WSAs.

Hummingbird Springs. Hummingbird Springs WSA contains over 22,300 acres of crucial bighorn habitat and nearly 17,000 acres of crucial desert tortoise habitat. The Gila monster, kit fox, prairie falcon, and golden eagle also use the WSA.

Saddle Mountain. Saddle Mountain WSA is used by prairie falcons and golden eagles in the upper reaches and Gila monsters in the foothills.

Black Mountains/Ives Peak. Black Mountains/Ives Peak WSA is part of an area proposed for desert bighorn reintroduction. Table 3-1 lists this WSA's special-status species.

Tres Alamos. Tres Alamos WSA, lying next to the Black Mountains/Ives Peak WSA, is also proposed for bighorn reintroduction and has special-status species similar to those in the Black Mountains/Ives Peak WSA.

Land Uses

The main objective of the land's section of the management framework plan (MFP) is to allow public lands to accommodate future growth. The Land Uses section of this EIS deals with such land use issues as surface and mineral ownership, utility corridors, communication sites, and access to mining claims and inholdings. Residents of the EIS area live predominately in small towns or rural settings. The communities' economic use of public land varies but primarily centers on agriculture, tourism, mining, and ranching. Grazing and mining, the predominant economic land uses on EIS area's public lands, are discussed in separate sections.

MULTIPLE-USE UTILITY CORRIDORS

The following utility corridors, as identified in Step 2 of the Hualapai-Aquarius and Lower Gila North MFPs, cross portions of the EIS area, allowing all compatible utility uses, including highways, railroads, pipelines, and electrical transmission lines. Utility corridors in the EIS area are shown on Map 3-1.

1. The mile-wide Central Arizona Project (CAP) Granite Reef Aqueduct corridor follows the existing CAP Granite Reef Acueduct (roughly a 300-foot-wide right-of-way) built by the Bureau of Reclamation.

2. The mile-wide Wenden-Wickenburg corridor follows an existing Arizona Public Service (APS) 69-kV line (a 300-foot-wide right-of-way). This corridor also includes the Santa Fe Railroad and State Highway 60 and supplies communities on Highway 60.

3. The 2-mile-wide Parker-Liberty corridor follows a 161-kV and a 230-kV Department of Energy powerline (a 200-foot-wide right-of-way).

4. The mile-wide Wickenburg-Yarnell corridor follows a county road and an existing APS 69-kV line (a 325-foot-wide right-of-way). The Hassayampa River Canyon WSA lies near this corridor.

5. The 2-mile-wide Palo Verde-Devers corridor follows a Southern California Edison 500-kV transmission line (a 200-foot-wide right-of-way). This corridor is perhaps the single most important in the EIS area in that it is the primary route from the Palo Verde nuclear generating station to California substations. The Big Horn WSA lies near the southern portion of the corridor.

6. The mile-wide San Juan-El Paso corridor (Planet, Buckskin Mountains, Rawhide Mountains, and Aubrey Peak WSAs) follows an El Paso natural gasline (a 50-foot-wide right-of-way), starting south of Yucca and crossing the Bill Williams River in the west portion of Aubrey Peak WSA. At this point, the corridor widens to 2 miles. The corridor forms the eastern boundary of Planet and Buckskin Mountains WSAs, the western boundary of Aubrey Peak WSA, and portions of the boundary of the Rawhide Mountains WSA. Provident Oil has expressed an interest in applying for a right-of-way within this corridor.

7. The proposed 2-mile-wide Parker-Bagdad (Planet and Upper and Lower Burro Creek WSAs) corridor will contain the proposed Cyprus-Bagdad water pipeline from Lake Havasu to Bagdad. The proposed corridor contains portions of the Department of Energy (DOE) 69-kV line and the El Paso Natural gas spur line.

8. The 2-mile-wide Big Sandy-Phoenix corridor (Arastra Mountain and Lower Burro Creek WSAs) parallels State Highway 93 and the DOE Mead-Liberty 345-kV powerline (a 150-foot-wide right-of-way). DOE is planning to prepare an EIS on a 1,000-kV direct-current line from Lake Mead to Phoenix. The line is tentatively planned to follow an existing DOE 345-kV line.

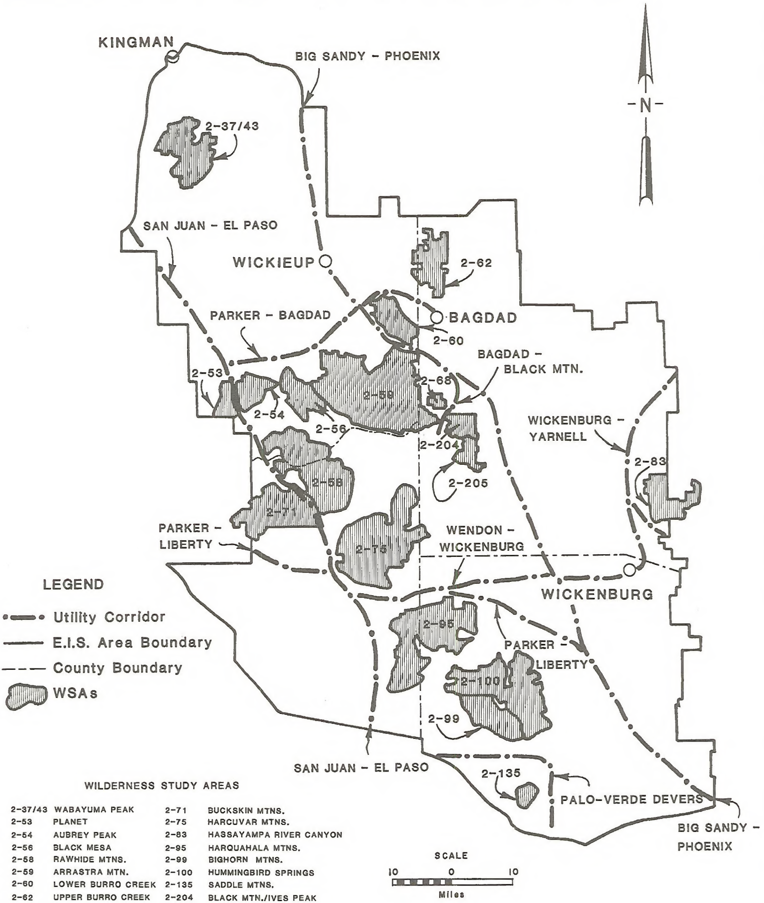
9. The Bagdad-Black Mountain corridor is proposed for an Arizona Public Service powerline on state land east and south of Peoples Canyon to service the Anderson Mine. This corridor is not identified in the BLM planning process.

COMMUNICATION SITES

The demand is increasing throughout the EIS area for sites to provide two-way communication systems for private concerns as well as local, state, and federal agencies. Both BLM and the Bureau of Reclamation have pending right-of-way applications to build repeater and microwave facilities on Harquahala Peak. Communications from northern Arizona to Phoenix are extremely weak and unrealiable and would be improved by such facilities. A demand also exists for more communication sites on Pete Smith Peak, which has an existing communication site accessed by a well-established road and nearly surrounded by Harcuvar Mountains WSA. In great demand by Wickenburg, Salome, and Wenden, this site is important for communication systems connecting northern Arizona to Phoenix. The existing Aguila microwave communication site in the Hummingbird Springs WSA is important in networking communication systems in Arizona.

LAND OWNERSHIP AND ACCESS

The land ownership pattern is a major issue affecting wilderness designation. State and private mineral rights are high in many WSAs and conflict with wilderness manageability (Table 3-2). Mining associations have filed many appeals against designating WSAs on the basis of valid existing rights and mineral rights. BLM



WILDERNESS STUDY AREAS

2-37/43	WABAYUMA PEAK	2-71	BUCKSKIN MTNS.
2-53	PLANET	2-75	HARCUVAR MTNS.
2-54	AUBREY PEAK	2-83	HASSAYAMPA RIVER CANYON
2-56	BLACK MESA	2-95	HARQUAHALA MTNS.
2-58	RAWHIDE MTNS.	2-99	BIGHORN MTNS.
2-59	ARRASTRA MTN.	2-100	HUMMINGBIRD SPRINGS
2-60	LOWER BURRO CREEK	2-135	SADDLE MTNS.
2-62	UPPER BURRO CREEK	2-204	BLACK MTN./IVES PEAK
2-68	PEOPLES CANYON	2-205	TRES ALAMOS

MAP 3-1
UTILITY CORRIDORS

cannot deny access to state and private inholdings or to federal lands with nonfederal mineral rights. Without controlling access or development of nonfederal minerals, BLM cannot manage an area as wilderness.

Nonfederal mineral rights on WSAs vary from 0-62 percent. In many WSAs BLM needs to acquire both nonfederal surface land and mineral rights to achieve a manageable wilderness area. Mineral values are difficult to appraise, and until an acceptable method of mineral valuation is determined, land exchange or acquisition may be difficult to achieve.

Mineral Exploration and Development

BLM mineral resource inventories were conducted in 1979-1981. They include data from the US Geological Survey (USGS) Computerized Resources Information Bank (CRIB), Bureau of Mines Minerals Inventory Locater System (MILS), the files of the Arizona Department of Mineral Resources, and Arizona Bureau of Geology and Mineral Resources publications. BLM also received information from the mining industry and mining claim owners. In its inventories, BLM did not try to estimate the dollar values of the mineral potential of any WSA.

BLM geologists attempted to quantify acres of WSA by "favorability" of mineral potential, using a rating system modified from a USGS system and an industry system. Three rating categories of mineral potential were defined as follows:

- **Class I – More Favorable** – a number of geologic characteristics suggest the occurrence of mineral resources.
- **Class II – Moderately Favorable** – geologic characteristics suggest the occurrence of mineral resources.
- **Class III – Less Favorable** – few geologic characteristics suggest the occurrence of mineral resources.

Acres by class for the *Proposed Action* are shown in Table 4-2.

The number of mining claims in a WSA can greatly vary from one year to the next. Table 3-3 shows the number of claims in each WSA in the Hualapai-Aquarius Planning Area as of June 1981 and in the Lower Gila North Planning Area as of May 1981.

Strategic or critical minerals have been mined or found in some of the WSAs. These minerals, as included in the 1980 Stockpile Report to Congress (Federal Emergency Management Agency, 1981), are summarized in Table 3-3.

Table 3-3 shows the reported mineral occurrence by WSA. Four levels of occurrence based on MILS criteria were used:

TABLE 3-2
WSA SURFACE AND MINERAL OWNERSHIP

WSAs	Public Land Acres	Acres of Mineral Ownership on Public Land								Surface Inholdings	
		Federal	(%)	State	(%)	Santa Fe Pacific R.R. Co.	(%)	Other Private	(%)	State (Acres)	Private (Acres)
Wabayuma Peak	36,730	15,430	(42)	5,180	(14)	15,320	(42)	800	(2)	—	1,720
Planet	12,765	5,725	(45)	1,070	(8)	5,970	(47)	—	—	—	—
Aubrey Peak	15,240	5,820	(38)	920	(6)	8,500	(56)	—	—	200	—
Black Mesa	17,010	7,990	(47)	522	(3)	8,498	(50)	—	—	—	—
Rawhide Mountains	62,300	55,940	(90)	2,560	(4)	3,800	(6)	—	—	—	—
Arrastra Mountain	113,650	103,050	(91)	2,880	(2)	7,520	(7)	200	(<1)	640	20
Lower Burro Creek	22,300	21,660	(97)	640	(3)	—	—	—	—	—	—
Upper Burro Creek	27,390	20,990	(77)	—	—	6,400	(23)	—	—	640	20
Peoples Canyon	3,480	3,480	(100)	—	—	—	—	—	—	—	—
Buckskin Mountains	47,582	47,582	(100)	—	—	—	—	—	—	240	—
Harcuvar Mountains	74,778	69,238	(93)	5,540	(7)	—	—	—	—	1,960	—
Hassayampa River Canyon	21,900	21,900	(100)	—	—	—	—	—	—	280*	—
Harquahala Mountains	73,875	72,675	(98)	1,200	(2)	—	—	—	—	800	—
Big Horn Mountains	22,337	21,237	(95)	1,100	(5)	—	—	—	—	—	—
Hummingbird Springs	67,680	66,680	(98)	1,000	(2)	—	—	—	—	1,920	—
Saddle Mountain	5,500	5,500	(100)	—	—	—	—	—	—	—	—
Black Mountains/Ives Peak	9,665	9,665	(100)	—	—	—	—	—	—	640	40*
Tres Alamos	8,910	8,880	(99)	—	—	—	—	30	(<1)	—	—

* Mineral rights on these parcels are owned by federal government.

TABLE 3-3
MINERALS IN AND AROUND WSAs[1]

WSAs	Beryllium	Bismuth	Cadmium	Chromium	Cobalt	Copper	Gold	Iron	Lead	Magnesium	Manganese	Mercury	Molybdenum	Nickel	Silver	Strontium	Titanium	Tungsten	Uranium	Vanadium	Zinc	Aluminum Oxide	Barite	Clay	Fluorspar	Mica	Mineral Clsims Per WSA[2]
Wabayuma Peak	P	P	P			P	P	P	P		P		P		P			P			P			P	P	P	31
Plsnet						P	P	P							P												87
Aubrey Peak						P	P		P		P				P				U				U		P		119
Black Mesa						P	P	E	P		P	E			P				E				P	P	P		64
Rawhide Mountains						P	P	E	P		P		D		P			D	E		P	P	E		P		310
Arrastra Mountain						P	P		P		P				P				E	D	P		P	P			370
Lower Burro Creek						U	D			E			U		D									D			103
Upper Burro Creek						D	P	P	P		E				P				E		P						24
Peoples Canyon																											0
Buckskin Mountains							P	P			P				P						P				E		127
Harcuvsr Mountains						P	P								P								P				36
Hassayampa River Canyon							P	P	P		D			P	P				E		P		E	E	E		84
Harquahala Mountains	E			E		P	P		E	P	P				P	E	E	E		E		E	P		P		241
Big Horn Mountains							E	U																			58
Hummingbird Springs		E				P	P		P		P				P					P	D	E	P		P		233
Ssddle Mountain																											3
Black Mountains/Ives Peak						P	P	P							P				D					E			16
Tres Alamos					P	P	P	P							P				D								349
Strategic and Critical Minerals[3]	S	S	S	S	S	S	N	N	S	N	O	O	B	S	O	N	S	O	N	S	S	O	N	N	S	G	

[1] Within approximately 12 miles.
[2] Approximate 1981 count.
[3] O = overage; S = shortage; G = listed under several grades, some are over snd some are short; B = bslanced; N = not listed.

P = past producer; D = developed deposit; E = exploration prospect; U = reported but ststus is unknown (based on MILS clsssificstion data, Bureau of Mines, 1982).

- **Past Producer** (P) — the WSA contains or is bordered by a mine or mines that operated economically over a period of time, producing the reported mineral.
- **Developed Deposit** (D) — the WSA contains or is bordered by deposits that have had some development work, indicating measureable mineralization in the past.
- **Exploration Prospect** (E) — the WSA contains or is bordered by prospects that have some indication of the reported mineral.
- **Unknown but Reported** (U) — a report somewhere indicates the presence of the mineral. Generally, little other information exists.

The highest level recorded is shown in Table 3-3.

Vegetation

VEGETATION TYPES

For including WSAs in the National Wilderness Preservation System, the Bailey-Kuchler vegetation classification system (Kuchler and Bailey, 1978) is used to determine the area by vegetation type to be proposed for wilderness designation. The Bailey-Kuchler system uses elevation, rainfall, and temperature to describe potential vegetation. All WSAs considered here lie within the American Desert Province, the Upper Gila Mountain Forest Province, or both. Table 3-4 shows the Bailey-Kuchler potential vegetation types occurring within the 18 WSAs.

TABLE 3-4
POTENTIAL NATURAL VEGETATION

Vegetation Type	WSA	Percent of WSA	Acres Represented in WSA
Arizona Pine Forest	Wabayuma Peak	2	735
Juniper-Pinyon Woodland	Wabayuma Peak	50	18,365
	Harquahala Mountains	33	23,875
Creosotebush	Wabayuma Peak	8	2,938
Creosotebush-Bursage (Y) = Joshua Tree	Planet (Y)	100	12,765
	Aubrey Peak (Y)	95	14,478
	Black Mesa	90	15,309
	Rawhide Mountains (Y)	80	49,840
	Arrastra Mountsin (Y)	75	85,238
	Lower Burro Creek	80	17,840
	Upper Burro Creek	30	8,217
	Peoples Canyon	100	3,480
	Buckskin Mountains	100	47,582
	Harcuvar Mountains	40	29,912
	Harquahala Mountains	10	7,500
	Saddle Mountain	100	5,500
	Black Mountains/Ives Peak	100	9,665
	Tres Alamos	100	8,910
Paloverde-Cactus Shrub	Aubrey Peak	5	762
	Black Mesa	10	1,701
	Rawhide Mountains	20	12,460
	Harquahala Mountains	50	37,000
	Big Horn Mountains	100	22,337
	Hummingbird Springs	100	67,680
Grama-Tobosa Shrubsteppe	Wabayuma Peak	40	14,692
	Arrastra Mountain	25	28,412
	Lower Burro Creek	20	4,460
	Upper Burro Creek	70	19,173
	Harcuvar Mountains	60	44,867
	Hassayampa Rivar Canyon	100	21,900
	Harquahala Mountains	7	5,000

Five of the six potential vegetation types in the EIS area are represented in the National Wilderness Preservation System. The sixth, pinyon-juniper woodland, is not now represented. All of these vegetation types except grama-tobosa shrubsteppe are represented in several administratively endorsed wilderness proposals. In addition, numerous examples of the same vegetation types occur in BLM WSAs and U.S. Forest Service Rare II areas throughout Arizona, California, and Nevada.

Protected Plants

No federally listed threatened or endangered plants have been found in any of the 18 WSAs. Four species occur that are under review by the U.S. Fish and Wildlife Service for possible listing as threatened or endangered (Table 3-5), and BLM has found five additional plants to be sensitive species. Eight species are on the Arizona Natural Heritage Program's list of special plants, and five are protected under the Arizona Native Plant Law administered by the Arizona Commission of Agriculture and Horticulture (Table 3-5) (Butterwick, 1982). More information on these species is included in the Aquarius, Hualapai, and Lower Gila Unit Resource Analyses (BLM, 1980b; 1980c; 1981a) and the Hualapai-Aquarius and Lower Gila North Management Framework Plans (BLM, 1980a; 1981c).

TABLE 3-5
PROTECTED PLANTS

Scientific Name	FWS Candidate Species	Listed by BLM	Listed by Arizona Natural Heritage Program	Listed by Arizona Commission of Agric. & Hort.
Allium bigelovii		X	X	X
Castilleja stenantha		X	X	
Cowania subintegra	X	X	X	
Fremontodendron californicum		X	X	X
Mammillaria viridiflora	X	X	X	X
Opuntia wigginsii	X	X	X	X
Orobanche uniflora ssp. *occidentalis*		X	X	
Peniocereus greggii	X	X		X
Thelypteris puberula var. *sonorensis*		X	X	

Rangeland Management

LIVESTOCK GRAZING

BLM permittees operate 41 allotments within the EIS area's WSAs. BLM administers grazing out of the Lower Gila Resource Area in Phoenix and the Kingman Resource Area in Kingman. Allotments within WSAs range from less than 5 to 100 percent. BLM has one implemented allotment management plan and is proposing intensive management for 16 allotments, less intensive management for 9 allotments, nonintensive management for 9 allotments, and ephemeral management for 6 allotments (Table 3-6) (BLM, 1982a; 1982b).

Six allotments in the WSAs are classified as ephemeral, and 35 allotments are perennial-ephemeral. The six ephemeral allotments are not assigned grazing capacities because they produce little perennial forage. BLM permits grazing on these allotments only when precipitation and temperature show the probability of an ephemeral crop. Perennial-ephemeral allotments produce enough perennial forage to support a base herd year round. When, however, favorable temperatures and adequate moisture produce an ephemeral forage crop, an allottee may apply for livestock to use the ephemeral forage through a nonrenewable grazing permit.

Five of the 35 perennial-ephemeral allotments are designated as custodial (Table 3-6). Custodial allotments have relatively little public land. BLM licenses these allotments for the carrying capacity of the public land only and does not control overall livestock numbers because none of the public land is fenced from private or state land.

BLM is proposing to implement rangeland management programs in the Lower Gila North and Hualapai-Aquarius Planning Areas. Specific proposals for grazing management are described in the Hualapai-Aquarius Rangeland Program Summary (BLM, 1982a) and the Lower Gila North Draft Grazing EIS (BLM, 1982b). Allotments within WSAs are shown in Table 3-6).

RANGELAND DEVELOPMENTS

All allotments have rangeland developments to manage livestock distribution (water developments, fences, and cattleguards) or to help in livestock management (corrals). Developments for controlling livestock distribution have been built by BLM, by allottees, or by both through cooperative agreements.

Through the land use plans, the Lower Gila North Draft EIS, and the Hualapai-Aquarius Rangeland Program Summary, BLM is proposing to implement intensive grazing management systems, which may require new rangeland developments. An environmental assessment must be prepared before any development can be built to ensure that a development also meets the needs of other resources. BLM's policy is to initiate cost-effective rangeland developments to help improve the condition of the lands for livestock grazing, wildlife, wild horse and burro habitat, and watershed protection as well as to protect wilderness values.

Rangeland developments within WSAs existing or under construction on October 21, 1976 (FLPMA

TABLE 3-6
PERCENTAGE OF ALLOTMENTS WITHIN WSAs

WSA Allotment	Management System	Proposed Action	All Wilderness	Enhanced Wilderness	Limited Wilderness
Wabayuma					
Walnut Creek	(I)	10	36	39	0
Boriana "A"	(I)	8	33	36	0
Planet					
Planet	(NE)	0	10	0	0
Aubrey Peak					
Bateman Spring	(I)	28	25	0	0
Artillery Range	(I)	4	3	0	0
Planet	(NE)	3	3	0	0
Black Mesa					
Alamo	(NE)	0	6	0	0
Alamo Crossing	(NE)	0	6	0	0
Artillery Range	(I)	0	20	0	0
Rawhide Mountains					
Harcuvar	(LI)	0	10	8	0
Alamo	(NE)	5	48	49	0
Alamo Crossing	(NE)	9	11	11	0
Primrose	(NE)	18	26	26	0
Arrastrs Mountain					
Arrastra Mountain	(I)	85	85	85	52
Burro Creek Ranch	(I)	40	40	40	20
Chino Springs	(NE)	84	84	84	84
Santa Maria	(I)	48	48	50	48
Greenwood Community	(I)	37	37	37	5
Artillery Range	(I)	15	15	15	15
Palmerita	(LI)	12	12	12	12
Alamo	(NE)	< 5	< 5	< 5	< 5
Lower Burro Creek					
Greenwood Peak Community	(I)	29	28	29	25
Bagdad	(I)	20	20	20	18
Black Mesa	(I)	55	55	55	55
Burro Creek Ranch	(I)	6	6	6	6
Upper Burro Creek					
Francis Creek	(I)	0	17	0	0
Burro Creek	(I)	0	80	0	0
Bagdad	(I)	0	6	0	0
Sweetmilk	(NC)	0	48	0	0
Peoples Canyon					
Van Keuren	(NC)	100	100	0	0
Buckskin Mountains					
Harcuvar	(LI)	0	7	0	0
Hancock	(LI)	0	4	0	0
Primrose	(NE)	0	30	0	0
Muse	(LI)	0	10	0	0
Harcuvar Mountains					
Harcuvar	(LI)	0	33	15	0
Rees	(LI)	0	30	25	0
Loma Linda	(I)	0	31	22	0
Leidig	(LI)	0	8	5	0
Hancock	(LI)	0	5	< 1	0
Hassayampa River Canyon					
Moralez	(LI)	0	60	0	0
Medd	(NI)	0	5	0	0
Brown	(NC)	0	46	0	0
Cooper	(NC)	0	70	0	0
R. & E. Park	(NC)	0	30	0	0
Hsrquahala Mountains					
Aguila	(I)	12	35	15	11
Big Horn Mountains					
Aguila	(I)	3	6	3	2
Clem	(NC)	<10	<10	0	<10
Hummingbird Springs					
Aguila	(I)	5	15	6	0
Echeverria	(LI)	21	50	21	0
Bialac	(NE)	0	11	0	0
Carter Herrera	(NI)	0	13	0	0
Ohaco	(I)	6	24	6	0
Saddle Mountain					
Saddle Mountain	(NI)	25	25	25	0
Carter Herrera	(NI)	2	2	2	0
Clem	(NC)	< 1	< 1	< 1	0
Ward	(LI)	< 2	< 2	< 2	0
Black Mountains/Ives Peak					
Bar D 4	(NI)	24	44	24	0
Ekvall	(NC)	100	100	100	0
Tres Alamos					
Pipeline	(I)	0	17	0	0
Bar D 4	(NI)	0	18	0	0

I = Intensive Grazing Management; LI = Less Intensive Grazing Management; NC = Nonintensive Custodial; NE = Nonintensive Ephemeral; NI = Nonintensive Grazing Msnagement passage) can contribute to be used and maintained. New rangeland developments, however, cannot be built within WSAs unless they are approved for the purpose of enhancing wilderness values by better protecting the rangeland in its natural condition.

BLM accesses rangeland developments by foot, by horseback, and by motor vehicle on roads or two-track ways. No new roads may be built or bladed to new rangeland developments in WSAs. For construction of new rangeland developments, cross-country use of motor vehicles or building of temporary access routes may be approved if BLM determines that the route and proposed rangeland development meet the nonimpairment criteria of BLM's Interim Management Policy for Lands under Wilderness Review (Appendix 1).

Fences may be built when BLM determines they are needed to better protect the rangeland. No blading of fencelines would be allowed during construction, and new fences must blend into the landscape.

Springs may be developed within WSAs so long as the troughs blend into the surroundings and the pipeline areas are restored to meet the nonimpairment criteria described in Appendix 1. New reservoirs may be allowed if they are built to blend into the surroundings and if their storage capacities do not exceed 10 acre-feet.

Wild Burros

Wild free-roaming burros are burros that were using federal rangeland for all or part of their habitat on December 15, 1971 when the Wild Free-Roaming Horse and Burro Act was passed. Of the nine wild burro use areas within the EIS area, four lie in parts or all of 11 WSAs. Approximately 1,100 burros inhabit the EIS area (BLM, 1981b; 1982b), and burros increase at an estimated annual rate of 9-12 percent.

BLM's management framework plans (BLM, 1980a; 1981c) and grazing EISs (BLM, 1981b; 1982b) call for reducing the Alamo herd from 300 to 200 burros. Removal of approximately 800 burros in the Big Sandy and Burro Creek Use Areas is also proposed in the Hualapai-Aquarius Rangeland Program Summary (BLM, 1982a). Complete removal of 200 burros is also proposed for the Harquahala-Big Horn Burro Use Area as outlined in the Lower Gila North Grazing EIS (BLM, 1982b).

Water Resources

SURFACE WATER

Eight watersheds, all in the lower Colorado River Basin, drain the 18 WSAs: Burro Creek; Bouse, Sacramento, and Centennial Washes; and the Big Sandy, Santa Maria, Bill Williams, and Hassayampa Rivers. Perennial streams in the Burro Creek, Bill Williams, Santa Maria, Hassayampa, and Big Sandy watersheds provide instream water for aquatic and riparian habitats, livestock, and game animals in six WSAs (Table 3-7). Livestock and wildlife get supplemental water from stockponds and developed and undeveloped springs.

TABLE 3-7
WATER RESOURCES BY WSA

WSAs	Watershed(s)	Perennial Streams	Miles
Wabayuma Peak	Sacramento Wash	None	0
Planet	Bill Williams River	None	0
Aubrey Peak	Bill Williams River	None	0
Black Mesa	Big Sandy River	None	0
Rawhide Mountains	Bill Williams River	Bill Williams River	12.0
Arrastra Mountain	Big Sandy & Santa Maria Rivers	Big Sandy & Santa Maria Rivers	21.0
Lower Burro Creek	Burro Creek	Burro Creek	10.0
Upper Burro Creek	Burro Creek	Burro & Francis Creeks	8.5
Peoples Canyon	Santa Maria River	Peoples Canyon Creek	2.0
Buckskin Mountains	Bill Williams River	None	0
Harcuvar Mountains	Bouse & Centennial Washes	None	0
Hassayampa River Canyon	Hassayampa River	Hassayampa River	7.0
Harquahala Mountains	Centennial Wash	None	0
Big Horn Mountains	Centennial Wash	None	0
Hummingbird Springs	Centennial Wash & Hassayampa River	None	0
Saddle Mountain	Centennial Wash	None	0
Black Mountains/Ives Peak	Santa Maria River	None	0
Tres Alamos	Santa Maria River	None	0

Streamflows vary greatly. Peak flows occur from October through April and in July and August. Most runoff in the WSAs results from high-intensity summer thunderstorms or long-duration winter storms. Channels draining public lands are normally dry the remainder of the year.

CONSUMPTIVE USES

Water sources in the WSAs are being used for mining, irrigation, domestic needs, livestock, and game animals. The amount of water consumed for mining, irrigation, and domestic use is not known. The WSAs do have enough water for livestock and wildlife, though it is poorly distributed (BLM, 1981b, 1982b). BLM and private individuals have filed for water rights on most sources in the WSAs, but not all of these rights have been adjudicated in the EIS area.

NONCONSUMPTIVE USES

Important nonconsumptive uses are those maintaining the riparian and aquatic wildlife habitats along perennial and intermittent streams and springs in eight WSAs. Other nonconsumptive uses are for recreation and aesthetic values. Instream flow requirements to support nonconsumptive uses are not known for water sources in the eight WSAs, though information may soon exist for Burro Creek.

WATER QUALITY

Little water quality data exist for streams and springs in the WSAs. Data from U.S. Geological Survey water quality stations on the Bill Williams River and one station downstream from the Lower Burro Creek WSA show the water to be unsuitable for domestic use. Contaminants of most concern are fecal coliforms and heavy metals, usually associated with grazing and mining. Locations sampled on Burro Creek did not meet state recreation and wildlife standards for dissolved copper and zinc, ammonia, lead, and organic nitrogen.

Cultural Resources

The analyses and conclusions concerning cultural resources in this EIS are based upon data from several levels of inventory. BLM has partially completed an existing data inventory (Class I) of west-central Arizona, which found 109 sites within the WSAs. BLM has also completed a field sample inventory (Class II) of public lands in western Arizona, using a 1 percent sample to gather data for planning and EISs. Because of funding limitations, 89,000 acres north of Wickenburg were not surveyed, and thus Class II inventory data do not exist for the Hassayampa River Canyon WSA. Certain portions of the WSAs have also received intensive project-specific inventories (Class III). The number of acres surveyed and the known sites per WSA are summarized in Appendix 4.

More information about all inventories can be obtained from the BLM Phoenix District Office. Detailed discussions of the Class II inventory method are included in the Aquarius, Hualapai, and Lower Gila North Unit Resource Analyses (URAs) (BLM, 1980b;c, 1981a). Site-specific information on archaeological resources, however, is confidential and will be provided only to qualified persons with legitimate research interests.

The culture history of the region is summarized in the Aquarius, Hualapai, and Lower Gila North URAs (BLM, 1980b;c, 1981a) and is also discussed by Linford (1979), Brown and Rice (1978), Euler (1958), and Dobyns (1956). Because little archaeological research has been conducted in western Arizona, the prehistory of the region is not well understood. Records show that the EIS area was probably used by several cultural groups, including the Prescott culture, the Hohokam, and various Yuman groups.

The WSAs have both prehistoric and historic cultural resources. Prehistoric site types include rock rings, quarries, extensive lithic procurement areas, ceramic scatters, chipping stations, habitations, campsites, hilltop "fort" structures, roasting pits, water control features, rock alignments, rock shelters, rock art, trails, and mixed artifact scatters. Historic cultural resources occur throughout the WSAs and include mines, mining camps, ranch houses, and such ranch-related structures as stone corrals. Sites with potential sociocultural value (see glossary) also occur.

Existing data are not precise enough to establish direct correlations between site locations and specific, single elements of the environment, such as vegetation or soil type. The data suggest, however, that certain physiographic localities have a higher likelihood of containing significant cultural resources. Cultural resource sensitivity maps were prepared for the Hualapai-Aquarius and Lower Gila North Grazing EISs (BLM, 1981b; 1982b). From these maps, the acreage of sensitive areas per WSA was calculated and an index of sensitivity (percent of sensitive area per WSA) was computed as shown in Table 3-8. WSAs were then ranked by the total acres of sensitive area (raw rank) and by the sensitivity index (adjusted rank).

The most sensitive units are the Harquahala Mountains, Hummingbird Springs, Big Horn Mountains, Upper and Lower Burro Creek, Peoples Canyon, and Saddle Mountain WSAs.

TABLE 3-8
CULTURAL RESOURCE SENSITIVITY BY WSA

WSA	Total Acres	Sensitive Acres	Index of Sensitivity*	Sensitivity Raw Rank	Sensitivity Adjusted Rank
Wabayuma Peak	36,730	15,000	40.8	7	6
Planet	12,765	0	—	—	—
Aubrey Peak	15,240	0	—	—	—
Black Mesa	17,010	2,000	11.8	14	11
Rawhide Mountains	62,300	2,000	3.2	14	13
Arrastra Mountain	113,650	22,000	19.4	5	9
Lower Burro Creek	22,300	16,000	71.7	6	3
Upper Burro Creek	27,390	24,000	87.6	3	2
Peoples Canyon	3,480	3,480	100.0	12	1
Buckskin Mountains	47,582	2,000	4.2	14	12
Harcuvar Mountains	74,778	11,000	14.7	8	10
Hassayampa River Canyon	21,900	5,800	26.5	9	8
Harquahala Mountains	73,875	40,000	54.1	2	4
Big Horn Mountains	22,337	22,337	100.0	4	1
Hummingbird Springs	67,680	67,680	100.0	1	1
Saddle Mountain	5,500	5,500	100.0	10	1
Black Mountains/Ives Peak	9,675	2,700	27.9	13	7
Tres Alamos	8,910	3,840	43.1	11	5

*Index of Sensitivity = $\frac{\text{Sensitive Acres}}{\text{Total Area}}$ x 100

The Harquahala Mountains contain a variety of cultural resources, including prehistoric habitation sites, rock art, and trails as well as historic structures and corrals. Sites primarily occur high in the mountains near springs and in open canyons and passes.

The numerous sites in the Hummingbird Springs and Big Horn Mountains WSAs represent prehistoric adaptation to the Paloverde-Saguaro Life Zone. Rock rings and small habitation sites predominate.

The Upper and Lower Burro Creek WSAs contain several historic homesteads and one of the highest densities of prehistoric sites in the Aquarius Planning Unit.

Peoples Canyon is another WSA with a dependable water source and a higher than average density of prehistoric sites.

Saddle Mountain WSA contains an abundance of prehistoric rock art and other prehistoric cultural remains.

The cultural resource base in the WSAs is generally in good to fair condition, having not yet been severely impaired. Erosion is the most common source of site deterioration, followed by vandalism, livestock trampling, road and utility construction, off-road vehicle use, mining, and range developments.

Visual Resources

BLM land planning efforts have established visual resource management (VRM) classes for all public lands in the EIS area, using the BLM 8400 VRM Planning Manual. These classes provide a basis for determining the visual impact of a proposed land management activity and mitigating measures needed to bring the activity within the acceptable limits of the VRM class.

VRM classes, their objectives, and required management practices are as follows.

Class I — Class I provides primarily for natural ecological changes only. It is applied to primitive areas, some natural areas, and similar situations where management activities are to be restricted.

Class II — Changes in any of the basic elements (form, line, color, or texture) caused by a management activity should not be evident in the characteristic landscape.

Class III — Changes in the basic elements caused by a management activity may be evident in the characteristic landscape, but the changes should remain subordinate to the visual strength of the existing character.

Class IV — Changes may subordinate the original composition and character but must reflect what could be a natural occurrence within the characteristic landscape.

Class V — Change is needed. This class applies to areas where the naturalistic character has been disturbed to a point where rehabilitation is needed to bring it back into character with the surrounding countryside. This class would apply to areas identified in the scenery evaluation in which the quality class has been reduced because of unacceptable intrusions. It should be considered an interim short-term classification until one of the other objectives can be reached through rehabilitation or enhancement. The desired visual quality objective should be identified.

All established WSAs are managed as VRM Class II areas. Upon designation as wilderness, an area will be managed under the VRM Class I objectives. Upon return of a WSA to multiple-use management, the area will be managed according to the VRM classes as shown in Table 3-9.

TABLE 3-9
VRM ACRES/VRM CLASS WITHIN EXISTING WSAs*

WSAs	WSA Acres	VRM Class Acres** Class I	Class II	Class III	Class IV	Class V
Wabayuma Peak	36,730	0	8,800	0	27,930	0
Planet	12,765	0	0	0	12,765	0
Aubrey Peak	15,240	0	0	0	15,240	0
Black Mesa	17,010	0	4,800	0	12,210	0
Rawhide Mountains	62,300	0	480	8,800	53,020	0
Arrastra Mountain	113,650	0	1,280	18,400	93,970	0
Lower Burro Creek	22,300	0	11,260	5,600	5,440	0
Upper Burro Creek	27,390	0	11,520	0	15,870	0
Peoples Canyon	3,480	0	0	0	3,480	0
Buckskin Mountains	47,582	0	0	0	47,582	0
Harcuvar Mountains	74,778	0	14,720	0	60,058	0
Hassayampa River Canyon	21,900	0	21,900	0	0	0
Harquahala Mountains	73,875	0	55,635	5,760	12,480	0
Big Horn Mountains	22,337	0	13,760	960	7,617	0
Hummingbird Springs	67,680	0	0	5,440	62,240	0
Saddle Mountain	5,500	0	5,500	0	0	0
Black Mountains/Ives Peak	9,665	0	8,385	0	1,280	0
Tres Alamos	8,910	0	4,000	0	4,910	0

* All WSAs are being managed under visual resource management (VRM) Class II objectives regardless of VRM class designation under the planning system.
** All VRM class acreages are approximate, being based on grid count.

Recreation

Most of the EIS area is relatively remote and sparsely populated. Except for areas next to live streams and major riverbeds, concentrated visitor use is predominant in areas developed specifically for recreation. More dispersed recreation occurs throughout the rest of the EIS area. Major activities include hunting, camping, rock collecting, and off-road vehicle (ORV) use. The primary types of recreation visitor use in the established WSAs are shown in Table 3-10.

TABLE 3-10
RECREATION VISITOR USE

WSAs	Hunting	Camping	Sightseeing	ORV	Rock Collecting	Horseback Riding	Other*
Wabayuma Peak	X	X		X			
Planet	X		X				
Aubrey Peak	X	X	X				
Black Mesa	X	X	X	X			
Rawhide Mountains	X	X	X	X			
Arrastra Mountain	X	X	X		X		
Lower Burro Creek	X	X	X		X		X
Upper Burro Creek	X	X					
Peoples Canyon							X
Buckskin Mountains	X			X			
Harcuvar Mountains	X	X	X				
Hassayampa River Canyon	X			X		X	
Harquahala Mountains	X			X	X		
Big Horn Mountains	X	X		X	X		
Hummingbird Springs	X	X		X	X		
Saddle Mountain		X		X	X		
Black Mountains/Ives Peak	X						
Tres Alamos	X						

* Includes backpacking and hiking.

Economic Conditions

The EIS area includes parts of Mohave, Yuma, Yavapai, and Maricopa Counties, and its economic activity primarily affects the economy of the four-county area. Thus, the four-county area was chosen as the economic study area (ESA) for this EIS.

In 1979 the value of livestock and livestock products sold in the ESA amounted to $330 million (Arizona Crop and Livestock Reporting Service, 1980). If one employee is needed for each $26,000 worth of livestock sold, an estimated 13,000 employees worked in the livestock industry in the ESA in 1979 (BLM, 1981b; 1982b).

Tourism and travel expenditures in the ESA amounted to $2.4 billion in 1979 (Arizona Office of Economic Planning and Development, 1980). Employment and income associated with these expenditures amounted to 62,000 employees earning $800 million.

Social Elements and Attitudes

This section discusses two types of social elements — population and public perceptions — that could be affected by the proposed wilderness alternatives. These social elements are described on three levels of generalization: local, county, and regional. The local level consists of the residents in the six census county divisions (CCDs) where the WSAs are located (Map 3-2). Census county divisions are geographic units within counties on which the U.S. Bureau of the Census maintains detailed population data. The county level is represented by residents of the four counties in which the WSAs are located and by residents of the eight counties abutting these four. The third level of generalization, the region, consists of inhabitants of an area within a 1-day drive of the WSAs, roughly within a 250-300 mile radius.

POPULATION

Table 3-11 shows population data for the three levels of generalization. The population of the local area constitutes a small proportion of the county population. The regional population, in turn, is much larger than the total population for the 12 counties.

TABLE 3-11
LOCAL, COUNTY, AND REGIONAL POPULATION 1970-1980

COUNTY CENSUS DIVISIONS

County Census Division	1970	1980	% Change
Kingman South (Mohave)	11,520	33,596	191.6
Congress (Yavapai)	1,788	3,195	78.7
Ashfork (Yavapai)	1,392	1,382	- 0.7
Parker (Yuma)	9,579	11,467	19.7
Wickenburg (Maricopa)	5,106	11,246	120.3
Buckeye (Maricopa)	7,807	11,223	43.8
Total Local Population	37,192	72,109	93.9

12-COUNTY

County	1970	1980	% Change
Mohave (Arizona)	25,857	55,693	115.4
Yavapai (Arizona)	37,005	68,145	84.2
Yuma (Arizona)	60,827	90,554	48.9
Maricopa (Arizona)	971,228	1,508,030	55.3
Coconino (Arizona)	48,326	74,947	55.1
Gila (Arizona)	29,255	37,080	26.7
Pinal (Arizona)	68,579	90,918	32.6
Pima (Arizona)	351,667	531,263	55.1
Imperial (California)	74,492	92,110	23.7
Riverside (California)	456,916	663,923	45.3
San Bernardino (Calif.)	682,233	893,157	30.9
Clark (Nevada)	273,288	461,816	69.0
Total County	3,079,673	4,567,636	48.3

REGIONAL

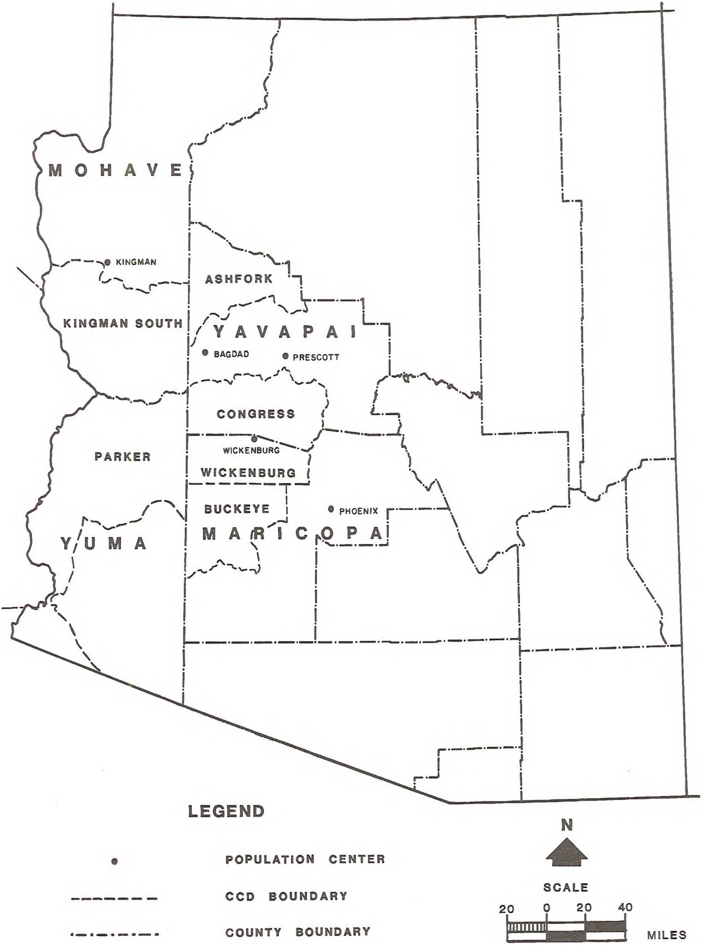
Area	1970	1980	% Change
Arizona (14 counties)	1,775,399	2,717,866	53.1
Nevada (3 counties)	281,444	474,596	68.6
California (9 counties)	11,671,098	13,713,808	18.0
Total Regional	13,673,941	16,906,270	23.6

Source: U.S. Bureau of the Census, 1971; 1981

PUBLIC PERCEPTIONS

Three types of sources provided information on local public perceptions of wilderness: published documents (BLM, 1977; 1978; 1979; 1981b), letters to BLM offices, and informal interviews with residents in the six CCDs. According to this information, local residents tend to favor local control and view the activities of federal agencies with skepticism and disparagement. Local residents express widespread support for mining, are concerned about the decline of mining employment and income, and are worried about "what the government will do" about mining.

MAP 3-2 CENSUS COUNTY DIVISIONS



Local residents have opposed wilderness studies by federal agencies. This opposition was noted in the Forest Service RARE II documents and in the BLM Hualapai-Aquarius Draft EIS (BLM, 1981b), which discusses the results of a survey of Mohave and Yavapai County residents in which over 70 percent of the respondents stated that wilderness was "not important" to them.

But, though a negative attitude exists among those who have expressed their opinions, one can assume that most residents are not interested in wilderness issues. Many, for example, in the Kingman South and Parker CCDs are much more interested in federal actions associated with the Colorado River than with wilderness. For a variety of reasons, wilderness concerns and issues are not important to the large numbers of retirees living in the Wickenburg, Ashfork, Congress, and Buckeye CCDs.

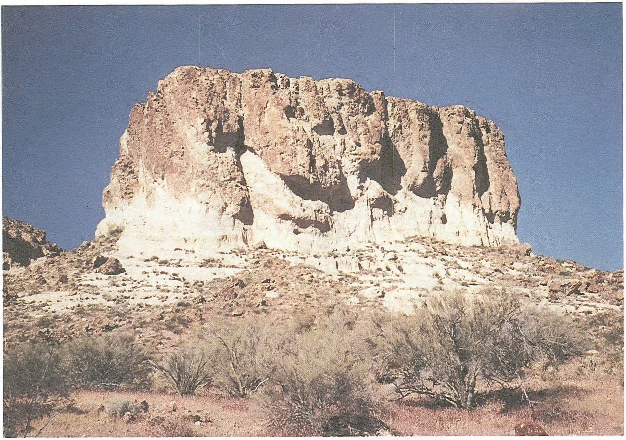
Some support on a relatively small basis does exist for wilderness in the local area. The Colorado River Indian Tribal Council has adopted several land use resolutions showing tribal interest in wilderness. Members of environmental conservation groups in Lake Havasu City, Wickenburg, and some other communities feel that "People here aren't against wilderness. They just don't want it to interfere with what they like to do."

A situation in which a large proportion of the population has little knowledge of or concern about wilderness is characteristic of the county and regional levels of public perceptions. In a study of residents of the California Desert, for example, only about half of the people contacted knew anything about BLM (SRI International, 1978). These people constituted a representative sample of residents in the eastern portions of Riverside, Imperial, and San Bernardino Counties.

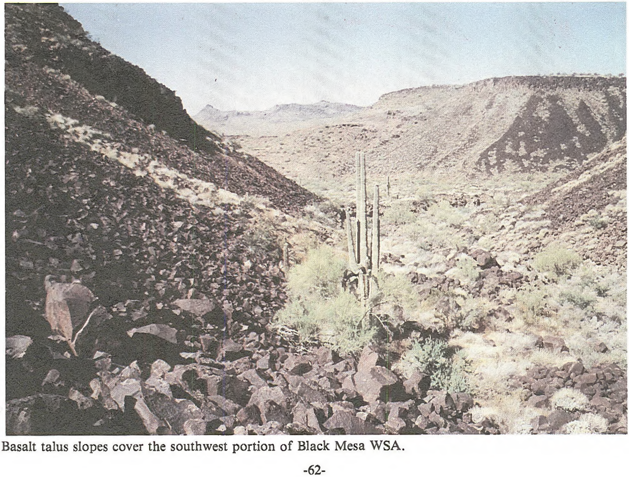
Those aware of federal wilderness areas and federal wilderness study activities fit into one of three categories: opposed, supportive of limited wilderness, and supportive of designating as much wilderness as possible. A study of the population of Utah concluded that the limited wilderness category would include more people than the other two (Centaur Associates, 1979). The wilderness perceptions of Utah residents are conservative and as such may be considered to apply to the county and regional levels considered in this EIS.

Outstanding vistas of desert plains and mountains and a stand of ponderosa pine await the visitor to Wabayama Peak WSA.

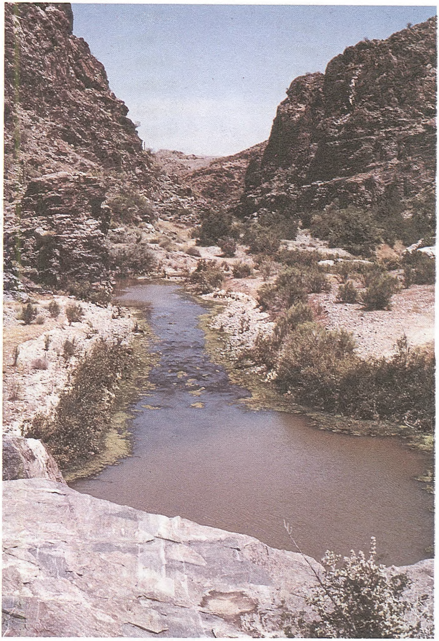
A hill and wash plain and several volcanic plugs characterize the landscape of Planet WSA.



The rugged volcanic formations of Aubrey Peak WSA are highly scenic and of great geologic interest.

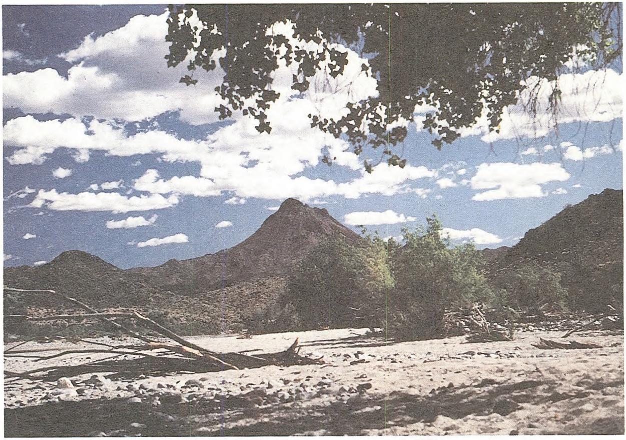


Basalt talus slopes cover the southwest portion of Black Mesa WSA.



The perennially watered Bill Williams Gorge reaches depths of 600 feet as it winds between the Buckskin and Rawhide Mountains in Rawhide Mountains WSA.

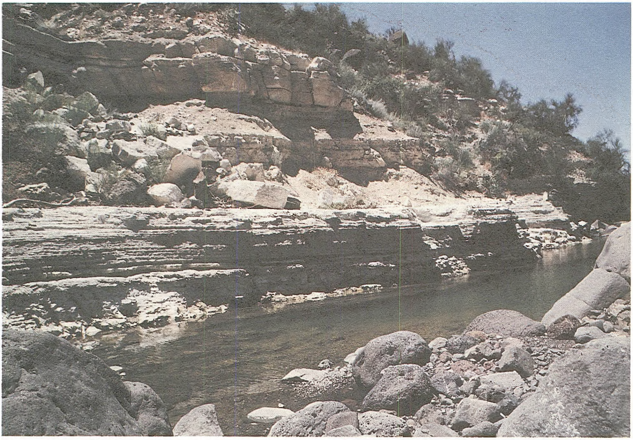
The Santa Maria River and bluffs in the southeastern portion of Arrastra Mountain WSA.



Artillery Peak as seen from the Big Sandy River in Arrastra Mountain WSA.

Hell's Half Acre in the center of Lower Burrow Creek WSA features a maze of crags, spires, overhangs, and ridges.

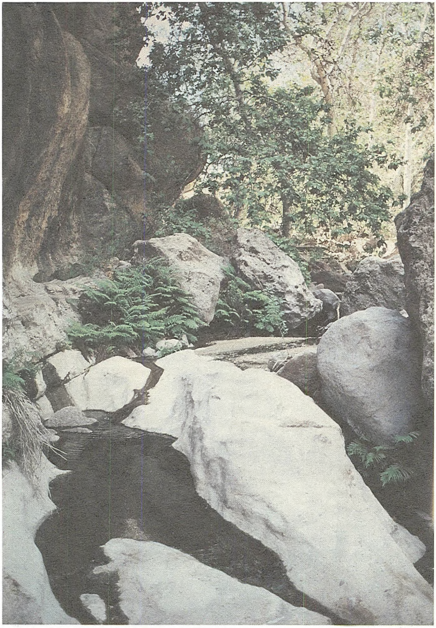
Lower Burro Creek WSA is noted for its perennial stream, riparian vegetation, and habitat for numerous wildlife species.



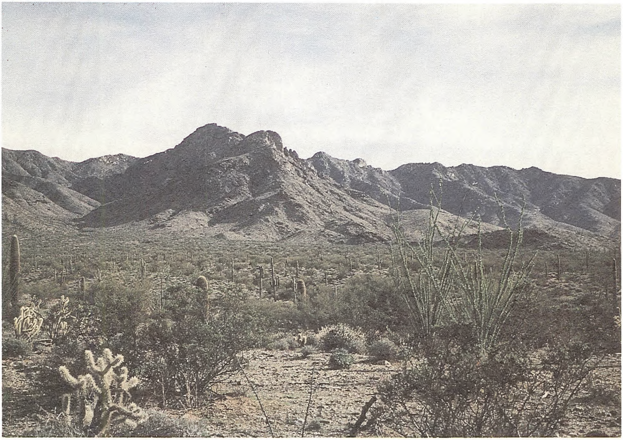
Stream-cut bank and swimming hole in Upper Burro Creek WSA offer hikers both scenery and recreation.

Aerial view of hills and washes of Buckskin Mountains WSA.

Peoples Canyon as seen from the Sycamore Springs area northwest of the WSA.

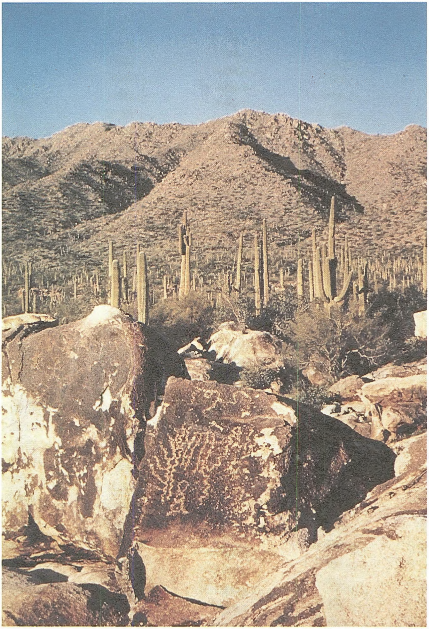


Delicate ferns and other plants uncommon to the desert occur in narrow perennially watered Peoples Canyon.



The Harcuvar Mountains, with peaks and ridgelines nearly a mile high, rise sharply 2,800 feet from the valley floor.

A hiker enjoys the scenery in Hassayampa River Canyon WSA just downstream from Jesus Canyon.

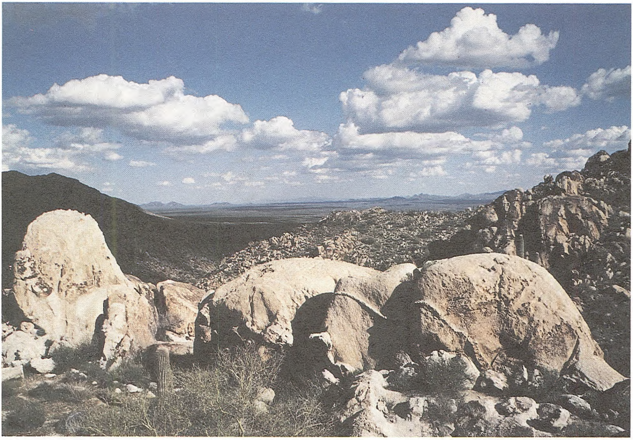


Courtesy of Tom Wright

Brown's Canyon forms a jumble of granite boulders and lush paloverde-saguaro vegetation in Harquahala Mountains WSA. Petroglyphs occur throughout the canyon.

Courtesy of Tom Wright

Hikers pause at an ephemeral waterfall in the Harquahala Mountains. Harquahala is an Indian name meaning "there is running water up on high."

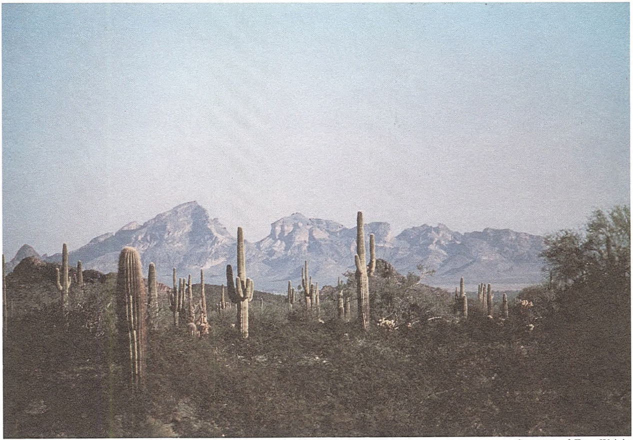


Sleeping Elephant Rock is among the interesting rock formations in Harquahala Mountains WSA.

Courtesy of Tom Wright

Hikers cross a desert bajada enroute to ascend 3,480-foot-high Big Horn Peak (center background).

The precipitous face of Sugarloaf Mountain dominates Hummingbird Springs WSA.



Courtesy of Tom Wright

Saddle Mountain, a volcanic upthrust rising from the Harquahala Plain, is a familiar landmark to travelers in the area.

The pristine condition of Saddle Mountain WSA contrasts sharply with the farmlands of the Harquahala Plain.

Outstanding vistas award the hiker who reaches the crest of the Black Mountains in Black Mountains/Ives Peak WSA.

A small livestock corral and watering trough little detract from the scenery or naturalness of Tres Alamos WSA. Sawyer Peak (right), at 4,923 feet, dominates the area.

Chapter 4

ENVIRONMENTAL CONSEQUENCES

CHAPTER 4

ENVIRONMENTAL CONSEQUENCES

Introduction

Chapter 4 analyzes the environmental consequences of the alternatives, including the *Proposed Action* for each WSA. Each analysis will be commensurate with the degree of expected impact. The interdisciplinary team determined that no measurable impacts would occur to geology, topography, soils, air quality, climate, vegetation, water resources, or fire management, and these components are not discussed in this chapter.

Basic Assumptions

1. BLM will have the resources to develop and implement wilderness management plans for areas designated wilderness.
2. BLM will have the resources to manage the WSAs under the Interim Management Policy until they are either released or designated wilderness by Congress.
3. All state or private lands enclosed by a boundary alternative will be acquired or pose no obstacle to effective management of the wilderness resource.
4. Wilderness designation will occur after December 31, 1983. (See Appendix 2 - Appendix B, Section 4-d-3.)
5. Range, wildlife, and other improvements will be installed and maintained by customary methods when site specific environmental assessments show wilderness resources will not be impaired.
6. A fire management plan will be developed for the wilderness areas limiting control to the protection of life, property, and critical resources.
7. Livestock and burro use will be maintained at the levels described in the rangeland program summary for the planning area.
8. Any area designated as wilderness will be managed to meet the visual resource management Class I objectives with management consideration given to valid existing rights and grandfathered uses.

Analysis By WSA

All 18 WSAs are impacted by the *All-Wilderness* and *No-Wilderness* (No Action) alternatives. For several WSAs the other three alternatives have the same provisions as the *All Wilderness* or *No Wilderness* alternatives. To reduce the analysis section and to reduce repetition, the WSA-by-WSA analysis is limited to the alternatives listed in Table 4-1.

Impacts on Wilderness Values

INTRODUCTION

Wilderness values are the outstanding recreational and solitude opportunities and natural, scenic, geological, ecological, scientific, educational, and cultural resources present within an area. As tracts of undeveloped federal land, wilderness areas are primarily managed to preserve wilderness values.

Wilderness designation would end prospecting and mineral development except on valid mining claims and leases, prohibit the filing of new claims and issuing of mineral leases, and restrict most motorized vehicle and equipment operation. Furthermore, the building of roads, structures, and installations would also be prohibited, along with commercial enterprises and range, wildlife, or recreation projects not complementary to wilderness resources.

Prohibiting these land uses would ensure the preservation of a WSA's existing natural and roadless character and would maintain existing opportunities for experiencing either solitude or nonmotorized and undeveloped types of primitive and unconfined recreation. Moreover, any scenic, ecological, botanical, zoological, cultural, scientific, and historic values or multiple resource benefits of wilderness designation would be preserved or allowed to evolve in a natural environment for enjoyment and study by present and future generations.

Following is a unit-by-unit analysis of the impacts on wilderness values of designating an area as wilderness and implementing wilderness management. The *No-Wilderness* alternative, recommending no wilderness designation, is also analyzed.

WABAYUMA PEAK (see table 4-1)

Proposed Action

The *Proposed Action* would designate as wilderness 12,505 acres, including Wabayuma Peak and surrounding basins, ridgelines, and canyons (Map 2-1). Wilderness designation would preserve Wabayuma Peak's most distinctive scenery, plant communities, and wildlife habitats and would protect opportunities for solitude and primitive recreation.

ENVIRONMENTAL CONSEQUENCES

TABLE 4-1
ALTERNATIVES ANALYZED BY WSA

WSA	Alternatives	Total Acres Recommended
Wabayuma Peak	Proposed Action	12,505
	All Wilderness	38,450
	Enhanced Wilderness	40,090
	No Wilderness	0
Planet	All Wilderness	12,765
	No Wilderness	0
Aubrey Peak	Proposed Action	16,310
	All Wilderness	15,440
	No Wilderness	0
Black Mesa	All Wilderness	17,010
	No Wilderness	0
Rawhide Mountains	Proposed Action	17,600
	All Wilderness	62,300
	Enhanced Wilderness	47,850
	No Wilderness	0
Arrastra Mountain -Peoples Canyon	Proposed Action	125,270
	Enhanced Wilderness	127,350
Arrastra Mountain	All Wilderness	114,310
	Limited Wilderness	78,775
	No Wilderness	0
Lower Burro Creek	Proposed Action	24,500
	All Wilderness	22,300
	Limited Wilderness	19,400
	No Wilderness	0
Upper Burro Creek	All Wilderness	28,030
	No Wilderness	0
Peoples Canyon	All Wilderness	3,480
	No Wilderness	0
Buckskin Mountains	All Wilderness	48,462
	No Wilderness	0
Harcuvar Mountains	All Wilderness	76,738
	Enhanced Wilderness	43,180
	No Wilderness	0
Hassayampa River Canyon	All Wilderness	22,180
	No Wilderness	
Harquahala Mountains	Proposed Action	26,780
	All Wilderness	74,675
	Enhanced Wilderness	32,795
	Limited Wilderness	24,735
	No Wilderness	0
Big Horn Mountains	Proposed Action	21,900
	All Wilderness	22,337
	Limited Wilderness	13,010
	No Wilderness	0
Hummingbird Springs	Proposed Action	16,540
	All Wilderness	69,600
	Enhanced Wilderness	25,370
	No Wilderness	0
Saddle Mountain	All Wilderness	5,500
	No Wilderness	0
Black Mountains/ Ives Peak	Proposed Action	13,220
	All Wilderness	10,345
	No Wilderness	0
Tres Alamos	All Wilderness	8,910
	No Wilderness	0

Consisting of a series of massive ridges punctuated by outcroppings, spires, and crags, Wabayuma Peak rises 4,100 feet within the unit. Wabayuma Peak represents the least disturbed high elevation area and example of mixed conifer and Sonoran-Mohave Desert vegetation types in the Hualapai Mountains. Within the boundaries of the designated area, five plant communities and overlapping ecosystems would be preserved: Sonoran desert shrub, Mohave desert shrub, chaparral, pinyon-juniper, and pine-oak. Designation would also protect a 6-mile pristine remnant of Hualapai Mountain pine forest, including virgin stands of fir and ponderosa pine. Little of this forest remains undisturbed outside the WSA.

Wabayuma Peak has been identified as a special wildlife habitat area because of its unique diversity of plant communities within a relatively small area. Thus designation would maintain singular opportunities for the sightseer, botanist, and student of wildlife and ecology. Designation would protect the unit's pine-oak and chaparral communities, which support 12 special-status species, including zone-tailed and sharp-skinned hawks and golden eagles, and portions of the only known habitat for the Hualapai meadow mouse, a BLM sensitive species. Furthermore, the coniferous forests are crucial raptor habitats because of dense nesting populations.

Designation would maintain excellent recreation and solitude opportunities for the wilderness user. Challenging and scenic hikes, including a pack trail up Wabayuma Peak, would remain within the designated area. Visitors would be able to hike from desert terrain up to pine forests, experiencing solitude and observing numerous types of plants and animals. Moreover, up to 4 miles of the planned Hualapai Crest Hiking Trail may pass through the WSA, further enhancing the area's recreational value. Wabayuma Peak is also the highest point within a Phoenix District WSA. Its summit offers visitors superb vistas of neighboring peaks, ridges, ranges, and valleys across northwest Arizona and into California. Sightseeing and scenic opportunities for visitors outside the area would also be protected. Wilderness would preserve mountain scenery and rock formations for traveler enjoyment along 6 miles of the Hualapai Mountain Road Scenic Corridor planned for designation on the area's eastern boundary.

Furthermore, designation would help protect the undisturbed character of 1,000 sensitive cultural resource acres important for scientific use and study.

Conclusion. Designating Wabayuma Peak would preserve important wilderness values and maintain scenic, recreational, and plant resources. It would also protect critical wildlife habitats unique to western Arizona.

IMPACTS ON WILDERNESS VALUES

All Wilderness

All Wilderness would designate 38,450 acres as wilderness, preserving in an undisturbed condition 25,945 more acres than would the *Proposed Action.* Designation would protect an 11-mile remnant of the pristine Hualapai Mountain pine forest, preserve precipitous cliffs, basins, and drainages in the unit's northwest, incorporate desert flats and drainages along the western and southern portions of the WSA, and protect 100 acres of riparian wildlife habitat and 15,000 cultural resource sensitive acres. In addition, large representations of Wabayuma Peak's varied and unique assemblage of plant and wildlife types would be preserved and allowed to develop or continue unencumbered across a large area, giving the area significance for scientific and educational study of undisturbed ecosystems.

The rugged terrain and dense vegetation preserved within this large area would give wilderness users ample space in which to seek solitude and engage in challenging, unconfined recreation, including horseback riding and lengthy cross-country hikes. Furthermore, designation would preserve the natural landscapes and vistas of the Hualapai Mountain ridgeline for visitors outside the WSA, including travelers along the 8 miles of Hualapai Mountain Road Scenic Corridor.

Conclusion. Wabayuma Peak has one of the last remnants of undisturbed forest terrain and animal ecosystems in the Hualapai Mountains and is the only Phoenix District WSA with the ecological diversity represented by a 5,200-foot elevation change. Wilderness designation under *All Wilderness* would preserve outstanding solitude and recreational values and would complement and protect scenic, cultural, plant, and wildlife resources. Surface disturbance on adjacent private land, however, might interfere with effective wilderness management near Wabayuma Peak.

Enhanced Wilderness

Enhanced Wilderness would designate 40,090 acres as wilderness. Designation of the entire Wabayuma Peak WSA and acquired adjacent lands needed for effective management would ensure the protection and preservation of the WSA's naturalness, recreation and solitude opportunities, and wildlife, plant, and cultural resources identified in the *Proposed Action* and *All Wilderness* alternatives.

Conclusion. Ecological and scenic values unique to western Arizona would be effectively managed for enjoyment and study by current and future generations of wilderness visitors.

No Wilderness

Under *No Wilderness,* Wabayuma Peak would not become part of the National Wilderness Preservation System. Nondesignation would allow land uses that could seriously degrade the WSA's natural character, solitude, primitive recreation opportunities, and wildlife, plant, and scenic resources. Furthermore, the scientific and educational value of Wabayuma Peak as an undisturbed natural ecosystem would be lost. The WSA is extremely sensitive to surface disturbance by mining, road building, and off-road vehicle (ORV) use because of the shallow soil and steepness of the land.

Developing access to private inholdings and minerals would most seriously and permanently impact naturalness, solitude opportunities, and scenic values because such development would be difficult to mitigate in such rugged landscape and rocky soil. Moreover, BLM and range users might also increase access as part of grazing management systems, to develop and maintain livestock and wildlife waters and associated developments. Wabayuma Peak might also be used as a communication site with road access, seriously degrading the scenic quality both within and outside the WSA.

The economics of oil and gas production might spur exploration, even in rugged terrain, eliminating or degrading wilderness values. Over the long term, development of new access routes would subject a much larger area within the WSA to new or increased ORV use, leading to noise, erosion, and possible plant and wildlife habitat disruption. The value of hiking, sightseeing, and camping opportunities could decline across most of the area.

Conclusion. Nondesignation of Wabayuma Peak would allow potential uses that would degrade or eliminate the wilderness values of solitude, primitive recreation, naturalness, scenery, and multiple resource benefits identified in the *Proposed Action, Enhanced Wilderness,* and *All-Wilderness* alternatives. In addition, opportunities for educational and scientific study would be foregone.

PLANET

All Wilderness

Wilderness designation of Planet WSA (Map 2-2) under *All Wilderness* would preserve a highly scenic and complex series of narrow canyons dissected by a colorful lava flow, features that contribute to outstanding opportunities for solitude, hiking, camping, and geologic sightseeing. Designation would also permanently preserve desert plains undisturbed by ORV use, a rare situation in the Sonoran Desert. In addition, designation would protect habitat for desert bighorn sheep, antelope, desert tortoises, Gila monsters, rosy boas, and kit foxes, increasing the chance of visitors observing these special-status wildlife.

Planet WSA is relatively small and could potentially be surrounded by utility corridors, which would reduce scenic values and solitude opportunities.

Conclusion. Designation would protect scenic desert plains, canyons, and geologic formations, features providing a variety of recreation opportunities in a pristine desert environment. Wilderness values, however, might not be manageable because of the area's small size and utility corridor placement on adjacent land.

No Wilderness

Nondesignation of Planet's 12,765 acres would likely harm the area's natural character. Wildlife habitats, rare undisturbed desert plains, and scenery are particularly sensitive to surface disturbance because of shallow soils, numerous rock outcrops, and the lack of rainfall needed for rehabilitation. Placing major utility corridors, mines, and permanent roads in or next to the area would permanently disturb the scenery and opportunities to experience solitude and primitive recreation. Oil and gas exploration might occur, but such adverse impacts could be more easily mitigated in this terrain than could other disturbances. Most of the Planet WSA lacks off-road scars, but construction and alignment of major utility corridors, mineral extraction, and related improvement of access to this remote area might increase ORV use, leading to noticeable surface disturbance of the plains.

Conclusion. Nondesignation of Planet would allow potential uses to degrade or destroy existing wilderness values of solitude, primitive recreation, naturalness, and special features that would be protected under *All-Wilderness.*

AUBREY PEAK

Proposed Action

Wilderness designation of Aubrey Peak's 16,310 (Map 2-2) acres would preserve one of the most colorful and dramatic volcanic landscapes in western Arizona and further protect a bighorn sheep lambing area from harmful human activity. Safeguarding this undisturbed lambing area is particularly important because bighorn sheep habitats may decline if subjected to mining, energy development, and other human pressure. Designation would also protect habitats of six other special-status wildlife species, including prairie falcons, ferruginous hawks, and golden eagles. Preserving the volcanic dikes, plugs, spires, cliffs, and buttes and wildlife habitats would greatly benefit sightseers within and outside the area, who would continue to enjoy magnificent scenery and chances to view wildlife. Moreover, designation would maintain opportunities for solitude, hiking, camping, backpacking, desert photography, and geological study of numerous volcanic rock types. Also preserved would be opportunities to study a unique botanical area with good plant diversity and an excellent array of Sonoran desert shrub vegetation.

Conclusion. Designation would permanently protect scenic and recreation values unique to western Arizona and augment management of critical bighorn sheep habitat, features dependent upon Aubrey Peak's roadless and natural character and ecological integrity. The wilderness experience of visitors would be enhanced by the opportunity to observe these animals and ecosystems.

All Wilderness

Wilderness designation of *All Wilderness* would preserve 15,440 acres of Aubrey Peak, having the same impacts on wilderness values as the *Proposed Action,* except that an adjacent 640-acre state section would not be acquired, and 230 acres of public land outside the WSA would not be designated. Omitting these parcels would create some minor management problems because off-road vehicles (ORVs) use these areas for access to central or sensitive parts of the WSA. ORV use could thus damage naturalness, reduce opportunities for solitude, and disturb wildlife habitats.

Conclusion. Designation would preserve the same wilderness values that would be protected by the *Proposed Action* but create some management difficulties in restricting ORV use.

No Wilderness

This alternative would result in the loss of 15,240 acres to the National Wilderness Preservation System. Aubrey Peak's two major wilderness values – bighorn sheep habitat and fragile scenic values – would be exposed to human disturbance. The abundance of slickrock, sparse plant cover, shallow soils, and slow weathering would make surface disturbance permanent and highly noticeable.

Though now remote, Aubrey Peak may be subject to increasing ORV use and scarring, a result of improved access due to major utility corridor alignments and nearby mining. Oil, gas, and mineral exploration would probably spur road development and operations inside the WSA and irreparably damage scenery, opportunities for solitude, and wildlife habitats. Moreover, utility lines are likely to be placed near the WSA's edge, further harming scenic and wildlife values. Loss of Aubrey Peak's natural character would greatly decrease its attractiveness as a setting for hiking, camping, sightseeing, and other primitive recreation opportunities.

Such disturbances would likely lead to the decline and elimination of the bighorn sheep herd and lambing area. Since the wilderness inventory cited the presence of bighorns as both a major supplemental wilderness value and a strong indicator of wilderness character, any decline in the bighorns would consitute a significant loss of wilderness values.

If grazing increases and range developments are built, noticeable and undispersed trailing in the slickrock and across the bajadas would occur, disturbing the area's scenic volcanic features and desert ecology.

Conclusion. Nondesignation of Aubrey Peak would allow for potential uses to degrade the existing wilderness values of solitude, primitive recreation, naturalness, scenery, and bighorn sheep habitat as identified in the *Proposed Action* and *All-Wilderness* alternatives.

BLACK MESA

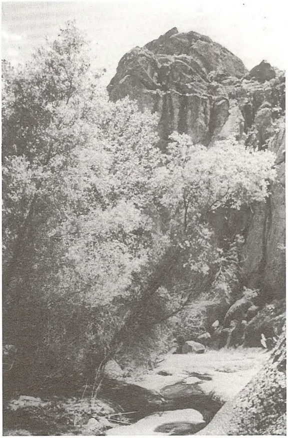
All Wilderness

Wilderness designation of Black Mesa WSA (Map 2-2) would preserve the existing natural character and opportunities for solitude and primitive recreation on 17,010 acres. The WSA's secluded canyons and eroded cliff faces would provide visitors with challenging cross-country routes for hiking, backpacking, photography, and birdwatching. Furthermore, wilderness would enhance a MFP proposal to designate the Yucca-Alamo Road a scenic corridor. Wilderness would protect from human disturbance the scenery along 6 miles of the corridor. Wilderness would also better protect the habitats of four special-status wildlife species — Gila monster, desert tortoise, golden eagle, and prairie falcon — and maintain the undisturbed character of 2,000 sensitive cultural resource acres for future use and study.

Conclusion. Designation would preserve a large basalt mesa with isolated rugged cliff faces and interior canyons. In addition to preserving its pristine character, solitude, and recreation opportunities, wilderness would facilitate habitat management, enhance a scenic corridor designation, and maintain cultural resources for future study.

No Wilderness

No Wilderness would result in the loss of 17,010 acres to the National Wilderness Preservation System and permit human activity to degrade wilderness values. Such disturbances as oil and gas exploration, mineral development, and related road building, though unlikely, could irreparably disturb the land surface, wildlife habitats, and scenic character of Black Mesa. Such disturbance could not be mitigated or rehabilitated in this rugged and barren volcanic terrain. Manganese



Riparian habitat, as shown above in People's Canyon WSA, is the rarest and most productive wildlife habitat in the EIS area. The Upper Sonoran WSAs have nearly 3,000 acres of such habitat. Wilderness designation would provide greater protection to riparian and other wildlife habitats than currently exists.

mining along the WSA's south edge would probably continue to only slightly impact the WSA as a whole, but any increases in the level of mining here would greatly disturb the scenery.

Conclusion. Nondesignation of Black Mesa would allow for potential uses to degrade the existing wilderness resources of solitude, primitive recreation, naturalness, and supplemental values as identified in the *All-Wilderness* alternative.

RAWHIDE MOUNTAINS

Proposed Action

Wilderness designation of 17,600 acres of Rawhide Mountains WSA (Map 2-3) under the *Proposed Action* would preserve the natural landscape along 11 miles of the Bill Williams River, one of Arizona's few perennial desert streams. A boundary change along the river bottom in the west end of the canyon was made to allow access along the Lincoln Ranch aqueduct. Vehicle travel or other disturbance in this area would lessen opportunities for solitude in adjoining portions of the gorge.

Designation would maintain the spectacular scenery and outstanding opportunities for solitude, hiking, camping, sightseeing, hunting, trapping, wildlife observation, and photography within 5 miles of the colorful and intricate 600-foot deep confines of the Bill Williams Gorge and its major side canyons. Recreation opportunities are also good in the Mississippi Wash badlands north of the river, which are also protected by the *Proposed Action.* The presence of perennial water within the gorge and easy access to the river from Alamo Lake State Park greatly enhance recreation opportunities.

Wildlife would most benefit from wilderness designation because the aquatic and riparian areas crucial to wildlife would be protected. Riparian habitat such as found here (600 acres) is among the rarest and most restricted habitat in the deserts of western Arizona but is also the most biologically productive. Certain reptiles, birds, small mammals, and amphibians as well as plants depend on wetlands. Designation would protect habitat for two endangered species, the bald eagle and peregrine falcon, in addition to 14 other special-status species, including 1,200 acres of desert tortoise habitat. Furthermore, the reintroduction of two fish species and expansion of cottonwood riparian corridors — actions important to the continued viability of wildlife resources — may have a greater chance of success under wilderness designation. Wilderness designation would prevent most detrimental human influence on wildlife and their habitats, thus preserving existing and allowing new scientific, educational, and wildlife observation opportunities.

Conclusion. Preserving the exemplary scenic values along 11 miles of the Bill Williams River, including 5 miles of gorge, will maintain opportunities for a variety of recreation experiences. Moreover, the additional protection by wilderness designation would facilitate management and ensure the preservation of crucial riparian/aquatic wildlife habitat. A *Proposed Action* boundary change, however, would permit disturbance along 1 mile of the canyon bottom.

All Wilderness

Designating all 62,300 acres of the Rawhide Mountains WSA would offer more opportunities for solitude and primitive recreation than would any other alternative because it would involve a larger area, more points of access, and more attractions. The large area represented by *All Wilderness* would disperse visitors outside the narrow confines of the Bill Williams Gorge into the dramatic hills of the Buckskin and Rawhide Mountains. The gorge's sensitive wildlife habitats and wilderness values would be better protected from human activity by being surrounded on three sides by large tracts of designated wilderness. In addition, *All Wilderness* would not allow vehicle access into the gorge's western end. Visitors outside the WSA would continue to view undisturbed vistas of the Rawhide and Buckskin Mountains within the WSA. Moreover, wilderness would better protect the undisturbed character of 2,000 sensitive cultural resource acres for future study.

Portions of the area's wilderness values may not be effectively managed because the unit's great variation in dimension (a result of configuration and cherrystemmed roads) brings visitors in contact with such off-site activities as ranching, farming, and mining. Furthermore, if development of the area's numerous mining claims become economically feasible in the future, wilderness values might be degraded in the areas with substantial mineral entry.

Conclusion. Designation would protect a 12-mile stretch of the Bill Williams River and large portions of the Rawhide and Buckskin Mountains. Moreover, cultural resources and crucial wildlife habitats would be better protected. Effective wilderness management, however, might be difficult because of the unit's irregular boundary configuration and mineral development.

Enhanced Wilderness

Enhanced Wilderness would designate 47,850 acres, a larger area than would be designated by the *Proposed Action.* Opportunities for solitude and primitive recreation would be increased by including more of the Rawhide and Buckskin Mountains, dramatic hills drawing visitors away from the river canyon. More points of access would also serve to disperse visitors. Unlike the *All-Wilderness* alternative, *Enhanced Wilderness* would not compromise these opportunities by allowing the evidence of man's presence too close to the wilderness boundary. Rather, the boundary would create a more logical management configuration based on landforms, exclusion of man-made features, and protection of wilderness values. The boundary was also changed in the west end of the canyon to allow access along the Lincoln Ranch aqueduct.

Conclusion. Preservation of a scenic river canyon and portions of the rugged desert mountain ranges would provide outstanding opportunities for visitors to experience a wild desert river bisecting rugged Sonoran Desert ranges. The *Enhanced Wilderness* boundary, however, would permit disturbance along 1 mile of the river bottom.

No Wilderness

Under *No Wilderness,* the 62,300-acre Rawhide Mountains WSA would not become part of the National Wilderness Preservation System, and land uses harmful to wilderness values might be allowed.

Although no economic minerals are known to exist, extensive mineral exploration could occur across much of the unit if it is not designated wilderness. Exploration, development of access, and mining would permanently and noticeably scar the barren badlands and mountains. Only on the WSA's perimeter could mining occur without harming the unit's higher quality and more sensitive scenic resources along the gorge and badlands.

Although Bill Williams Gorge is isolated, a road could be bladed up the canyon, or a mine in the watershed above the river could release materials from a side canyon into the gorge. Mining and motorized vehicles on the fragile badland slopes and wash bottoms and within the gorge would disturb aquatic habitats, water quality, and sensitive wildlife species (including the bald eagles) and could eliminate areas as scenic and recreational attractions. Furthermore, such disturbance could diminish the area's usefulness as a Gila mountain-sucker and roundtail chub reintroduction site and its value as an established and possible expanded cottonwood riparian corridor.

The placing of more powerlines and pipelines on the east and west sides of the WSA could continue to pare away the naturalness of the unit and create highly noticeable linear scars both in and next to the WSA.

Conclusion. Nondesignation of Rawhide Mountains WSA would allow potential uses to degrade wilderness values of solitude, primitive recreation, and naturalness and the supplemental values identified for the *Proposed Action, All-Wilderness,* and *Enhanced Wilderness* alternatives.

ARRASTRA MOUNTAIN-PEOPLES CANYON

Proposed Action

The *Proposed Action* would designate 125,270 acres as wilderness, preserving one of the largest and least disturbed expanses of Sonoran Desert landscape in western Arizona. The *Proposed Action* would also link Arrastra Mountain and Peoples Canyon WSAs (Map 2-4) through land exchanges with the State of Arizona. Joining the two WSAs would greatly enhance the wilderness values and ecological integrity of both areas and make Peoples Canyon more manageable as wilderness. Furthermore, the acquisition and designation of adjacent state lands under the *Proposed Action* would incorporate and protect important wilderness, watershed, wildlife, cultural, and scenic values on those lands and would block up federal ownership in an area of widely recognized and sensitive resources.

The presence of 24 miles of two of Arizona's largest free-flowing desert ephemeral rivers and some perennial water sources, along with the area's great size, isolation, and inaccessibility contribute to the visitor's excellent opportunities for solitude and primitive recreation. Skill-testing cross-country treks, excellent horseback possibilities, unique landscape, and plant and animal sightseeing experiences would be preserved for the wilderness visitor. Over 195 square miles of rugged mountains, mesas, winding canyons, and sinuous washes and rivers could be used by visitors seeking solitude in a wilderness setting.

Scenic, wildlife, plant, and cultural wilderness attributes would also be maintained in their current natural state. Exemplary riparian scenery would be preserved, including the narrow tree and fern-lined Peoples Canyon with its slickrock and perennial water and meandering portions of the mesquite and cottonwood lined Big Sandy and Santa Maria Rivers. Sightseeing opportunities preserved outside the wetland areas would also be superb. Prominent red-hued Artillery Peak rises steeply above the granite Artillery Range along the area's west border, while outcropped peaks of Arrastra Mountain and Poachie Range dominate the skyline to the east and north. The vast Sonoran Desert landscape between the Artillery and Poachie Mountains provides vistas of hills and mesas divided by narrow canyons and washes.

Excellent opportunities for both sightseeing and scientific study of plant and animal ecosystems would be protected by wilderness designation. The *Proposed Action* would preserve habitat for 15 special-status species, including habitat favorable to desert tortoises, peregrine falcons, and wintering bald eagles. Designation would also improve the potential for successfully reintroducing desert bighorn sheep and protect an area in Peoples Canyon conducive to introducing the Gila topminnow and desert pupfish, while improving the possibility of eventually delisting these fish as endangered species. Moreover, designation would protect the larges amount of riparian area within any Phoenix District area under wilderness review. Riparian habitat such as found here (970 acres) is the rarest and most restricted habitat in the deserts of western Arizona but is also the most biologically productive. Certain reptiles, birds, small mammals, and amphibians as well as plants depend on wetlands.

Wilderness would also protect the area having a population of Arizona sycamore and nine other rare plants and allow improvement of riparian habitats through the expansion of the diverse cottonwood and willow riparian and aquatic areas. These wetlands, preserved undisturbed within wilderness, would be able to evolve unhindered by human activity, permitting visitors to observe natural desert ecosystems.

Pictograph sites and other cultural resources would be protected for future study by maintaining the undisturbed character of 25,480 acres considered culturally sensitive. Better preservation of identified sample cultural resource site types and other areas highly likely to have undisturbed cultural resources would benefit both the sightseer and the cultural scientist.

Conclusion. Designation would preserve the wilderness values within this large and remote Sonoran Desert area. Designation would protect important riparian ecosystems, maintain primitive recreation and scenic values in a natural state and allow for future generations to experience unique opportunities for solitude. Opportunities for biological study of several desert ecosystems would also be preserved.

Enhanced Wilderness

Enhanced Wilderness would protect the same wilderness values as would the *Proposed Action* but would reincorporate the 2,000-acre portion of the WSA south of the Santa Maria River. The 2,000-acre parcel would enhance the wilderness area by preserving 5 miles of bluffs and a secluded river bottom on the south side of the Santa Maria River. Designation would preserve scenery and riparian habitats in this area, providing visitors with greater river-based hiking, sightseeing, and solitude opportunities than would the *Proposed Action*.

Conclusion. *Enhanced Wilderness* would protect all the wilderness values preserved by the *Proposed Action* and enhance wilderness opportunities for visitors hiking the Santa Maria River by protecting scenic bluffs and the stream's south bank.

ARRASTRA MOUNTAIN

All Wilderness

Designating the 113,650-acre Arrastra Mountain WSA (Map 2-4) would permanently protect 19 miles of two of Arizona's largest free-flowoing desert ephemeral rivers. The area's great size, isolation, perennial water sources, and inaccessibility contribute to the visitor's excellent opportunities for solitude and primitive recreation. Skill-testing cross-country treks, excellent horseback possibilities, unique landscape, and plant and animal sightseeing experiences would be preserved for the wilderness visitor. Over 177 square miles of rugged mountains, mesas, winding canyons, and sinuous washes and rivers could be used by visitors seeking solitude in a wilderness setting.

Other wilderness attributes would also be maintained in their current natural state. Exemplary scenery would be preserved, including the sandy, meandering riverbeds of the Big Sandy and Santa Maria Rivers and the sharp outcroppings and granitic peaks of the Artillery and Poachie Mountain Ranges.

Excellent opportunities for both sightseeing and scientific study of plant and animal ecosystems would be protected by wilderness designation. *All Wilderness* would preserve habitat for 15 special-status species, including habitat favorable to desert tortoise, peregrine falcons, and wintering bald eagles. Designation would also improve the potential for successfully reintroducing desert bighorn sheep. Moreover, designation would protect important riparian habitat along the Big Sandy and Santa Maria Rivers. Riparian habitat such as found here (760 acres) is the rarest and most restricted habitat in the deserts of western Arizona but is also the most biologically productive. Certain reptiles, birds, small mammals, and amphibians as well as plants depend on wetlands. These wetlands, preserved undisturbed within wilderness, would be able to evolve unhindered by human activity, permitting visitors to observe natural desert ecosystems.

Cultural resources would be protected for future study by maintaining the undisturbed character of 22,000 acres considered culturally sensitive. Better preservation of identified sample cultural resource site types and other areas highly likely to have undisturbed cultural resources would benefit both the sightseer and the cultural scientist.

Mining or other surface disturbance of nonfederal parcels along the Big Sandy and Santa Maria Rivers could impair adjacent wilderness resources, disturbing solitude, naturalness, and opportunities for unconfined recreation on adjacent wilderness lands. If such detrimental uses occur, BLM could not effectively manage small portions of the unit as wilderness.

Conclusion. Designation would maintain unsurpassed recreation and solitude opportunities and rare undisturbed riparian ecosystems in a productive state. Large undisturbed Sonoran Desert landscapes and ecosystems uninfluenced by man are rare. Small portions of this unit, however, may have manageability problems due to nonfederal land ownership along portions of the rivers.

Limited Wilderness

Limited Wilderness would preserve existing scenic values, wildlife habitats, and opportunities for recreation and solitude along 16 miles of the Big Sandy River and on the volcanic hills, mesas, and outwash plains south of Arrastra Mountain's granitic ridgeline. Designation, however, would not protect 3 miles of the Big Sandy River, Signal Mountain, and scenic portions of the Arrastra, Madril, and Black Canyon drainages, reducing the overall quality of the Arrastra Mountain wilderness experience, particularly for the primitive recreationist. Opportunities for solitude and primitive recreation, though remaining outstanding, would be diminished by less variety of scenic attractions and hiking routes. Since *Limited Wilderness* would protect less riparian (only 580 acres) and other sensitive wildlife habitats than would other alternatives, opportunities to study and observe wildlife and plant ecosystems would also be diminished.

Conclusion. *Limited Wilderness* would maintain outstanding opportunities for solitude and primitive recreation within a natural Sonoran Desert landscape. In addition, portions of important and productive plant and wildlife habitats, including riparian areas, would be preserved for the future study and enjoyment of wilderness visitors.

No Wilderness

No Wilderness would not designate as wilderness the 113,650-acre Arrastra Mountain WSA, permitting land uses that over time could eliminate the WSA's wilderness values. Road building, mining, oil and gas development, and installation of range developments would be visible throughout the WSA, irreparably damaging scenic vistas and opportunities for solitude. Moreover, primitive recreation opportunities and wildlife habitats unique to western Arizona would be lost.

Extensive old uranium exploration has occurred along the southern edge of the unit, but deposits found are now uneconomic. Market changes, however, could bring pressure to explore and develop the ephemeral riparian areas and wildlife habitats of the Big Sandy and Santa Maria Rivers. Exploration and development would diminish the opportunities for wildlife and plant observation and study. If exploration finds economic manganese deposits in the Artillery Mountains, they might be developed, severely scarring the natural landscape of the WSA's western side. Mining interest in the WSA's northern portions also appears high, although no economic deposits have been found. Bulldozer exploration would eliminate wilderness values in this area.

ORV use would continue to little impact the area as a whole, as ORVs are now restricted to the many washes and river bottoms. Improved access due to other development, however, would greatly expand ORV use and magnify its impact on wilderness values, particularly wildlife and opportunities for solitude.

Failure to designate Arrastra Mountain as wilderness would probably preclude designation of Peoples Canyon as wilderness. Recombination with the Arrastra Mountain proposal would additionally protect Peoples Canyon, which is a natural extension of the ecosystem represented in Arrastra Mountain WSA. Peoples Canyon alone may be too small and isolated to effectively manage as wilderness.

Conclusion. Nondesignation of Arrastra Mountain WSA would allow potential uses to degrade the wilderness values of solitude, primitive recreation, and naturalness, as well as supplemental values protected by the *Protected Action, All-Wilderness,* and *Enhanced Wilderness* alternatives.

LOWER BURRO CREEK

Proposed Action

Wilderness designation of 24,500 acres of Lower Burro Creek WSA (Map 2-5) under the *Proposed Action* would ensure the preservation of this WSA's opportunities for recreation and solitude as well as related scenic, wildlife, cultural, plant, and water resources. The area includes 6 miles of perennial Burro Creek, an area known for its scenic beauty, abundant wildlife, and riparian habitats. Numerous basalt and rhyolite cliffs and canyons with unusually scenic spires, overhangs, and caves make up a major part of the area. Wilderness designation would preserve this spectacular scenery for both primitive recreationists and thousands of travelers outside the WSA who enjoy viewing this area. Highway overlooks allow visitors to view Burro Creek Canyon.

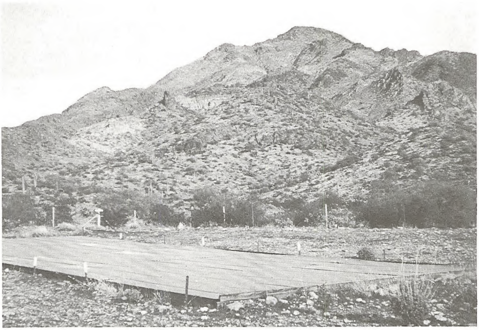
Designation would also maintain the excellent opportunities for wildlife, plant, and cultural scientific research as well as for educational use. The area is so used by many institutions, including Arizona State University, the University of Arizona, and Prescott Center College. Lower Burro Creek WSA has 17,900 cultural sensitive acres (including prehistoric quarries and homestead sites) and five major plant communities (including riparian). It also provides habitat for 26 percent of Arizona's known mammal species, nearly 267 animals. Riparian habitat such as found here (360 acres) is the rarest and most restricted habitat in the deserts of western Arizona but is also among the most biologically productive. Certain reptiles, birds, small mammals, and amphibians as well as plants depend on wetlands. By preserving these desert wetlands and adjacent habitats, wilderness designation would increase opportunities for viewing bald eagles and 14 other special-status species within a natural ecosystem free from human interference. Wilderness might also help to arrest the decline of these habitats by providing more protection to ongoing BLM efforts to establish broadleaf tree reproduction and perpetuation and to prohibit land and water uses detrimental to natural conditions.

Outstanding recreation opportunities in a remote environment would be maintained for the wilderness visitor, who could engage in hiking, backpacking, sightseeing, rock collecting, photography, birdwatching, fishing, and horseback riding. Designation would also ensure wilderness visitors the opportunity to experience solitude in an undisturbed desert setting. Numerous scenic attractions created by the area's rugged canyon, cliff, and wash landforms naturally isolate visitors and ensure their dispersal throughout the unit.

Conclusion. The *Proposed Action* would preserve scenic and recreation resources unmatched in the EIS area. Lower Burro Creek's diversity of landforms, vegetation, and wildlife would be permanently protected for the use and enjoyment of future generations.

All Wilderness

Designation of the 22,300-acre Lower Burro Creek WSA would preserve and protect the same wilderness values as would the *Proposed Action,* but 1,980 acres of state and private lands west of the WSA would not be acquired through exchange nor would 220 acres of public land outside the WSA be designated. Failure to



Catchments, like the one pictured above in Tres Alamos WSA, provide dependable water for desert wildlife. Such facilities exist in many WSAs but do not impair an area's naturalness. Wilderness designation might permit such new installations if they are compatible with wilderness preservation and management objectives for the area.

acquire these lands would not adversely impact the WSA because their acquisition was recommended only to enhance the scenic and hiking values of Kaiser Spring Wash by including its natural extension — Kaiser Spring Canyon. Though beneficial acquisitions, these lands do not improve the manageability of the WSA nor affect its suitability for wilderness designation.

Conclusion. *All Wilderness* would ensure protection of all wilderness values within Lower Burro Creek WSA but would not extend this protection to a portion of scenic Kaiser Spring Canyon.

Limited Wilderness

Limited Wilderness would have the same impacts as would the *Proposed Action* with one notable exception: powerline reconstruction or road building on the nondesignated portions of the WSA along or north of the powerline would create impacts noticeable within the northern part of the designated area. Such development could impair the sense of naturalness and lessen opportunities for solitude and primitive recreation in the highly scenic Hell's Half Acre. Moreover, such development could lessen the quality of the overall wilderness experience by compromising the physiographic integrity and manageability of Lower Burro Creek.

Conclusion. *Limited Wilderness* would protect important wilderness values but allow land uses on nondesignated portions of the WSA that could diminish the wilderness qualities of the designated area.

No Wilderness

Under *No Wilderness,* Lower Burro Creek would not become part of the National Wilderness Preservation System, and land uses detrimental to wilderness values would be allowed. Lower Burro Creek's scenic, wildlife, and recreation features are all susceptible to surface disturbance, particularly from mining and motorized equipment.

The rugged Lower Burro Creek landscape is both surrounded and bisected by existing or potential powerlines and water and gas pipelines, which would both increase access and pare away the roadless and natural area. New range developments and access needed to implement intensive grazing and burro management programs might also degrade natural values.

Increased access pressures and low-level placer mining and milling could disturb and degrade perennial stretches of lower Burro Creek Canyon. Noise, ORVs, mining equipment, and changes in water quality and quantity might disrupt or cause declines in riparian wildlife and habitat, diminishing opportunities for scientific and educational study. Mining operations outside the major canyons, particularly in the lava fields in the WSA's southern portion, would probably remain small if developed and would only operate sporadically as economic conditions dictate. These impacts could be mitigated to prevent the degrading of wilderness values and other special features.

The entire WSA is under lease application for geothermal exploration and possible development. If geothermal resources are sufficient to allow major power facility development, most of the WSA's value as a wilderness and scenic area would be foregone.

Utility corridor construction, energy, mining, and range developments would increase levels of ORV use. Rock collectors, hunters, and sightseers would use this improved access to travel to now inaccessible areas. Over the long term, a network of jeep trails outside the presently driven washes and creek bottoms could develop. The WSA's pristine character would be severely impaired, particularly in the fragile riparian canyons, slickrock washes, and Hell's Half Acre. These conditions would lessen the attractiveness of the WSA for solitude and primitive recreation experiences.

Lower Burro Creek is well known across much of Arizona because thousands of travelers weekly view and enjoy the major canyon, lava fields, and desert hills. Furthermore, Burro Creek Campground, next to the WSA, is usually full during the cooler season because of these enjoyable natural surroundings and running water. Nondesignation could permit activities that would nullify these scenic, visual, and recreational values enjoyed by visitors outside the WSA.

Conclusion. Nondesignation of Lower Burro Creek would allow for land uses that might degrade or eliminate the WSA's naturalness, opportunities for solitude and primitive recreation, and supplemental values as described for the *Proposed Action.*

UPPER BURRO CREEK

All Wilderness

Designation of Upper Burro Creek's 28,030 acres (Map 2-6) would preserve the area's natural character and dramatic scenery and maintain outsltanding opportunities for wilderness recreation. Over 4.5 miles of perennial Burro Creek, a portion of a large mesa, several side canyons, and a complex series of small hills offer numerous hiking, backpacking, and camping opportunities. Moreover, colorful rock layers, deep canyons, lush riparian zones, and abundant wildlife offer unique sightseeing and photographic opportunities.

Wilderness designation would also preserve opportunities for plant and animal viewing and cultural study. Within the area are habitats for 267 animals (including 17 special-status species), representing over 26 percent of Arizona's vertebrate species. The WSA also includes 810 acres of highly productive riparian habitat. Riparian habitat such as found here is among the rarest and most restricted habitat in the deserts of western Arizona. Certain reptiles, birds, small mammals, and amphibians as well as plants depend on wetlands. This concentration of wildlife provides exceptional opportunities for observing natural functioning plant and animal ecosystems. Moreover, the area supports a high density of prehistoric habitation sites. Designation would help protect these cultural sites from disturbance, preserving them for future use.

Wilderness designation would also maintain outstanding opportunities for scientific research and educational use. The area is currently used for animal, plant, and archaeological purposes by many institutions, including Arizona State University and the University of Arizona.

Managing this WSA as wilderness, however, might be difficult because of land ownership, which is divided among BLM, the state, and private owners. Furthermore, several other management problems would have to be solved, including the need to acquire 6,400 acres of checkerboarded mineral rights.

Conclusion. Wilderness would preserve several miles of perennial desert stream in a pristine setting, protecting and preserving scenic, recreational, plant, wildlife, scientific, and educational values unique to western Arizona for future generations. Effective management of wilderness values, however, might be difficult due to land and mineral ownership patterns.

No Wilderness

Upper Burro Creek WSA would not become part of the National Wilderness Preservation System under *No Wilderness*. Nondesignation could permit land uses that over time could degrade or eliminate the WSA's wilderness values. These impacts, however, would occur over the long term and would not affect all portions of the unit.

The entire WSA is under lease application for geothermal exploration and possible energy development. If geothermal resources are sufficient to allow major power facility development, most of the WSA's value as a wilderness and scenic area, except in the most rugged and inaccessible portions of Burro Creek Canyon, would be foregone.

The mesa top west of Burro Creek should remain unchanged. No known mineral resources, except possibly oil and gas, would encourage road development and exploration. Moreover, this isolated area is not subject to ORV use, and some ranchers discourage access to prevent poaching. Developing new range waters and fencelines should little impact the mesa's landscape, since existing developments are unnoticeable.

Pressure by nearby mines to upgrade or develop new water pumping facilities and access roads for oil or gas development would disturb the wildness of the canyon by creating severe visual and audio impacts. Current and increased water removal from Francis and Burro Creeks would continue to degrade the riparian area and reduce the value of the unit for wildlife observation and scientific or educational use.

Conclusion. Nondesignation of 27,390 acres of Upper Burro Creek WSA will allow potential land uses to degrade naturalness and scenic beauty as well as opportunities for primitive recreation and animal viewing.

PEOPLES CANYON

All Wilderness

All Wilderness would designate all 3,480 acres of Peoples Canyon WSA as wilderness. BLM, however, could not effectively manage nor protect the riparian canyons, rare plants, wildlife habitats, scenic and recreation experiences, and solitude opportunities through designation. Effective wilderness management under *All Wilderness* would be difficult because Peoples Canyon is a small isolated tract. The MFP revealed that successful management of Peoples Canyon alone would require acquisition through exchange of at least 1,600 acres of state land. Though the WSA includes a half mile of Peoples Canyon, including South Peoples Spring and its critical ecological values, the headwaters of Peoples Canyon at Sycamore Spring and important auxiliary drainages and springs lie north of the WSA. Without wilderness management of the drainage on state land, Peoples Canyon and its fragile riparian habitat, scenery, and recreation opportunities cannot be effectively managed.

Conclusion. Under *All Wilderness* Peoples Canyon could not be effectively managed to ensure preservation of its wilderness resources.

No Wilderness

Under *No Wilderness* Peoples Canyon's 3,480 acres would not become part of the National Wilderness Preservation System, and land uses would be permitted that over time could degrade or eliminate existing wilderness values. Peoples Canyon's unique assemblage of scenery, rare plants, and wildlife habitats depend on its isolated and perennially watered canyons. Such values are susceptible to mining, road building, and other surface disturbance. Excessive use of water for mining or grazing would alter the natural ecosystem. Moreover, increased access for mining and grazing would open up inaccessible and unknown areas to ORV use, hunting, and other human activity now uncommon or nonexistent in the area. Opportunities for solitude and primitive recreation would be foregone as well as the area's value for scientific and educational use as an isolated and untrammeled desert ecosystem.

Conclusion. *No Wilderness* would allow potential land uses to degrade or eliminate Peoples Canyon's natural character, value for solitude and primitive recreation, and scenic, plant, and wildlife resources that contribute to the area's wilderness value.

BUCKSKIN MOUNTAINS

All Wilderness

Wilderness designation would preserve exceptional opportunities for solitude within the Buckskin Mountains (Map 2-7). Divided by numerous washes and valleys, the range covers 74 square miles within the WSA. This large area assures the dispersal of visitors, allowing them to avoid the sights and sounds of others. Maintaining the pristine nature of the area would also better protect a 15,860-acre tract of crucial desert tortoise habitat from human disturbance. To a minor extent, wilderness designation may also protect habitat for the Gila monster and kit fox and preserve the scenery of the Buckskin Mountains for visitors outside the WSA.

Conclusion. Designating Buckskin Mountains wilderness would only slightly increase or benefit the quality and representation of Sonoran Desert wilderness experiences or opportunities within the scope of the National Wilderness Preservation System.

No Wilderness

No Wilderness would not protect Buckskin Mountain's wilderness values under the National Wilderness Preservation System and would permit land uses possibly detrimental to its pristine character and solitude opportunities. Present trends show that nondesignation would probably not degrade the area's wilderness values, since the area is remote and unvisited. If, however, economic mineral deposits are discovered, mining and road building could noticeably damage the WSA's pristine character and eliminate opportunities for solitude. Historic uranium and copper exploration has occurred adjacent to the area. Placing more utility corridors along the WSA's southwest and eastern boundaries would continue to pare down the natural landscape and degrade the area's visual quality. Furthermore, BLM has identified a small portion of the WSA in Butler Valley as suitable for agriculture and may thus dispose of such land, jeopardising the wilderness value of the parcel.

Conclusion. Nondesignation of the Buckskin Mountains would allow for potential land uses to degrade or eliminate its natural character and outstanding opportunities for solitude.

HARCUVAR MOUNTAINS

All Wilderness

Designating the entire Harcuvar Mountains WSA (Map 2-8) under *All Wilderness* would ensure the preservation of the area's pristine character and outstanding opportunities for solitude and primitive recreation. The precipitous 12-mile long Harcuvar Range, with rapidly descending canyons and extensive and highly dissected outwash plains at their base, offers the visitor a large area in which to hike, camp, study or photograph plants and wildlife.

Wilderness would also protect plants, wildlife, and scenic values, including an isolated stand of desert chaparral grassland (with 21 native species) and 8 special-status wildlife species, some dependent upon this grassland habitat. Rarely does this biotic community occur in such pristine condition, and as such it serves as a valuable scientific comparision for other sites that are being grazed. Furthermore, wilderness designation would protect from habitat disturbance the fishhook cactus, a BLM sensitive species. Wilderness would preserve the scenery along 12 miles of the Harcuvar Range, thus ensuring natural vistas for travelers along two major highways outside the WSA. Designation would also better safeguard 11,000 acres of the WSA likely to have undisturbed cultural resources.

The WSA's manageability may be encumbered by some 12 cherrystemmed roads. Two of these roads, one heading south from the north boundary and one heading into Happy Camp Canyon from the south boundary, cross state sections protruding into the WSA. Management problems could result if these state lands are developed. The other cherrystemmed roads do not pose as serious a manageability problem, being restricted to the flats and providing access to the mountain range. These roads and vehicle traffic, however, could also disturb wilderness users and diminish opportunities for solitude in adjacent areas.

Conclusion. Designation would preserve opportunities for solitude and primitive recreation in a pristine remnant of western Arizona's Basin and Range physiographic province and maintain a high mountain/desert ecosystem in a productive state for recreation, cultural and biological study, and observation by future generations. Effective wilderness management in portions of the WSA, however, may be hindered by cherrystemmed road access.

Enhanced Wilderness

Enhanced Wilderness would essentially have the same impacts as those addressed for *All Wilderness,* except that most of the cherrystemmed roads would be excluded and large portions (over 33,000 acres) of the pristine desert bajada around the Harcuvar Mountains would not be designated. Though this reduction in size would lessen opportunities for solitude and primitive recreation on the bajada, these opportunities remain outstanding within the rugged hills, mountains, and canyons of the Harcuvar Range. Wilderness would also better safeguard 5,800 acres of the WSA likely to have cultural resources.

Enhanced Wilderness would allow communication facilities around Smith Peak to expand, increasing visual impacts and reducing opportunities for solitude in the immediate area. These new facilities would be more visually prominent from within the WSA than are the existing facilities but would not greatly change the quality of the wilderness values.

Conclusion. Wilderness designation under *Enhanced Wilderness* would preserve in a pristine condition 12 miles of the precipitous Harcuvar Range and provide for the effective management and protection of the area's recreational, solitude, scenic, cultural, plant, and animal resources.

No Wilderness

The Harcuvar Mountain WSA would not become part of the National Wilderness Preservation System under *No Wilderness.* Nondesignation would permit land uses that over time could degrade or eliminate the WSA's wilderness values. Nondesignation would have little short-term impact on wilderness values, since no particularly sensitive or critical wildlife, ecosystems, landforms, or other special features appear threatened by current trends of land use in the area.

The WSA has few mining claims and little known mineral value. Cherrystem roads and less rugged desert bajadas could accommodate mining and oil and gas drilling, and such activity would have few adverse impacts on wilderness values of the WSA's mountainous core. Oil exploration in the mountains would be difficult to impossible and would probably not occur. Mining in the mountains would create serious visual impairment if economic resources were located and would reduce or eliminate opportunities for scenic sightseeing, solitude, and primitive recreation.

Additional transmission lines or pipelines might be placed on the WSA's edge, but these lines would neither seriously degrade opportunities for solitude or primitive recreation nor impair the WSA's natural character. These new lines would have visual effects, but the impacts would only slightly exceed those of existing utility lines.

The Smith Peak communication facilities would continue to expand, further impairing visual resources along the ridgeline. New towers and construction scars might be visible over a larger portion of the WSA than are the existing nonintrusive facilities, and opportunities for solitude would decrease. The area visually affected by facility construction would depend on facility design and siting. Site expansion, however, would ultimately be limited by rugged terrain and a lack of adequate building sites.

Livestock grazing and management should continue to have little or no impact on the WSA's wilderness values. Although some allotments would be intensively managed, access should be adequate to meet existing and new range management objectives. If built in undisturbed areas, however, range developments could impair wilderness values by brining cattle and vehicles into previously unused areas.

Conclusion. Nondesignation of the Harcuvar Mountain WSA would allow for potential uses to degrade the existing wilderness values of solitude, primitive recreation, naturalness, and supplemental values as identified for the *All-Wilderness* and *Enhanced Wilderness* alternatives.

HASSAYAMPA RIVER CANYON

All Wilderness

Designating the Hassayampa River Canyon (Map 2-9) as wilderness under *All Wilderness* would preserve the area's remaining natural character, maintain existing opportunities for solitude and primitive recreation, and augment management of the area's wildlife habitats, scenery, and plant resources. This remote area contains over 8 miles of one of Arizona's free-flowing ephemeral desert streams, the Hassayampa River. The canyon, long recognized for its scenic quality and rugged primitive recreation value, passes through the eastern and southern portions of the unit in a spectacular gorge nearly 1,000 feet deep. Wilderness designation would preserve these qualities and maintain the viability of the BLM proposed recreation-scenic area in the Upper Hassayampa River Canyon. Excellent recreation opportunities would continue to be offered the wilderness user, including hiking, backpacking, hunting, horseback riding, mountain climbing, photography, birdwatching, seasonal river running, and plant, animal, and geologic sightseeing. Furthermore, the sinuous river canyon with its myriad of side canyons, thick upland chaparral vegetation, and ruggedness would continue to provide the visitor with numerous opportunities for solitude.

Designating the area as wilderness would also benefit plants and animals by allowing ongoing natural ecological processes to continue with little human interference. Such resources include habitat for 10 special-status wildlife species, 260 acres of riparian vegetation, and a population of flannelbush, a BLM proposed sensitive species. Moreover, wilderness would improve the potential for successfully reintroducing threatened desert bighorn sheep into the area and would better protect portions of the WSA likely to have cultural resources.

The WSA's manageability problems and highest wilderness values all overlap along the river, and these manageability limitations are not easily resolved. Successful management of the river corridor is complicated by land status. Intervening state and private lands divide the 8-mile river canyon into four segments. Some of these state and private parcels are well developed mining, ranching, or agricultural sites that could not be easily acquired.

The intervening private parcels pose additional management problems in administering wilderness use. Access to this remote area is difficult. Several key access points to the river are on private land, and user conflicts could arise from trespassing. Furthermore, the private land and configuration of the WSA would also complicate hiker use of the river, requiring individuals to either trespass or detour, in one case several miles, around private land. Access by wilderness users to other portions of the WSA may also create conflicts with private land owners.

Conclusion. Wilderness designation of Hassayampa River Canyon WSA would maintain a highly scenic river canyon and riparian ecosystem in a natural state for future generations. Adjacent land ownership, however, would hinder use and management of the area as wilderness.

No Wilderness

The Hassayampa River Canyon would not become part of the National Wilderness Preservation System under *No Wilderness*. Nondesignation would permit land uses that over time could degrade or eliminate wilderness values on the WSA. Mining or road building would eliminate the area's natural character and diminish the area's attractiveness for solitude and primitive recreation experiences.

Exploring and developing placer gold deposits along the Hassayampa River would leave lasting impacts on the scenic canyon and pristine riparian landscape. Though most of the placer operations would occur on the river bottom, activities related to dredging (road building, earth excavation, ore crushing) leave scars above the normal floodplain that cannot be rehabilitated by periodic flooding. The narrowness of much of the gorge would magnify these impacts by requiring the building of most mine support facilities on higher benches or across steep canyon walls out of flash flood zones. Since the WSA's higher quality scenic values and solitude opportunities occur in the river canyon, this permanent impairment of natural character would eliminate wilderness values.

Interest is also high in hardrock mining within the canyon and elsewhere near the unit. Access to much of this country is poor, and new roads would likely be built in or through the WSA for access to mining claims. Additional roads crossing the unit's higher elevations outside the river corridor would eliminate the unit's remaining natural character.

Portions of the river canyon will continue to be subject to ORV use, which may damage riparian habitats and disrupt wildlife. Roads will probably be bladed up and down the river as miners and ranchers upgrade access. Though most blading would be confined to river-bottoms subject to flooding, roads may often cross riparian benches and higher knolls outside the normal flood zone, impairing visual resources and destroying vegetation.

Conclusion. Nondesignation of Hassayampa River Canyon would allow potential land uses to degrade naturalness and reduce opportunities for primitive recreation and solitude. Supplemental values would also be degraded.

HARQUAHALA MOUNTAINS

Proposed Action

The *Proposed Action* would preserve wilderness values on 26,780 acres of the Harquahala Mountains (Map 2-10). Rising sharply 4,000 feet from the desert floor, the Harquahalas have exceptional scenery due to their imposing skyline. In addition, the Harquahalas are one of the few desert ranges with a large screened interior canyon system. These interior canyons with springs, slickrock, waterfalls, and pools are a scarce scenic and recreational resource in the Arizona desert, and provide exceptional solitude. Furthermore, designation would maintain excellent and challenging opportunities for hiking, backpacking, horseback riding, hunting, and sightseeing. The area's deep canyons, steep cliffs, ephemeral waters, and spectacular scenery contribute to outstanding recreation opportunities. Moreover, being the highest desert mountain range in southwest Arizona, the Harquahalas provide the finest opportunity for visitors to observe expansive vistas of neighboring mountain ranges and desert plains, an excellent illustration of Arizona's basin and range physiography.

Although all recreation and solitude opportunities preserved by the *Proposed Action* are outstanding, their overall quality would be diminished somewhat by the *Proposed Action's* boundary, particularly in Brown's Canyon. The reduction in acreage and boundary placements might allow mining and ranching outside the area to disturb the solitude and natural character within the designated area.

Designation would maintain singular opportunities for viewing or studying wildlife and plants not found elsewhere in Arizona. The area's size, abundance of water, and ruggedness have protected several distinctive and highly productive ecosystems. The Harquahala Mountains are the only known desert range with a richness of animals usually found only in riparian communities. Over 139 species (including 12 special-status species) are present. One of the few expanding bighorn sheep herds inhabits the area. Furthermore, the WSA is a major raptor migration area and has the highest density of mule deer in western Arizona. Wilderness would also preserve 10 acres of riparian habitat crucial to many wildlife species.

Wilderness designation would also better protect and facilitate management of all parts of the Harquahalas proposed as botanical and wildlife areas of critical environmental concern, including a rare 5,000-acre tract of pristine chaparral grassland with 21 native grass species and a relict population of juniper. A total of 21 wildlife species depend on this chaparral habitat for survival. The undisturbed grasslands are important for scientific study, as they can be compared with similar sites being grazed elsewhere. Designation would also help maintain a viable population of BLM sensitive fishhook cactus.

Designation would preserve superb opportunities for viewing and studying cultural resources. Stone corrals and cabins, old mines, and signs of prehistoric Indian habitation lie scattered throughout the area.

Conclusion. The *Proposed Action* would maintain in a natural environment an array of scenic canyons, cultural resources, unusual plants and animals, and secluded recreation opportunities unique to western Arizona. Furthermore, wilderness would facilitate management of botanical and wildlife areas of critical environmental concern.

All Wilderness

All Wilderness would protect and preserve all of Harquahala Mountains' wilderness values, except in areas that BLM cannot effectively manage as wilderness. The larger size and variety of landscapes that would be preserved by *All Wilderness,* including the greater mass of the Harquahala Mountains and surrounding portions of its rolling desert bajadas would allow more and better opportunities for recreation and solitude than would the *Proposed Action.* The unit's large size would enhance solitude by ensuring greater dispersal of users. Recreation opportunities would increase slightly, mainly because extensive cross-country treks would be possible and the bajadas would offer easier hikes than would the mountains. All of the scenic Brown's Canyon drainage and additional bighorn lambing and use areas would be protected, greatly increasing opportunities for viewing scenery and experiencing solitude on the eastern side of the unit and studying and observing wildlife in the unit's western portion.

The eastern end of the WSA has potential mineral conflicts and manageability problems due to configuration. Mining conflicts could also occur in Dushey Canyon. Moreover, manageability of many portions of the desert bajadas are compromised by easy ORV access and ongoing mining. An open pit mine was recently active on Harquahala Peak. A portion of this mine with its grandfathered pre-FLPMA claims lies within the WSA and may further expand into the WSA. The Federal Aviation Administration's planned radar site would also detract from the wilderness suitability of the peak. The combination of the mine and communication site would severely limit BLM's ability to manage the area around the peak as wilderness.

Conclusion. Wilderness designation would preserve a large portion of one of the highest and most biologically rare Sonoran Desert ranges in western Arizona, maintaining its natural and ecological productive state for use and study by future visitors. Some wilderness values might be lost due to the exercise of land rights and uses deterimental to natural values.

Enhanced Wilderness

The *Enhanced Wilderness* alternative would designate as wilderness 32,795 acres of the Harquahala Mountains. This alternative would protect the entire watershed and scenery of Brown's Canyon on the east side of the unit and include important bighorn sheep habitat and lambing areas on the unit's southwest side. Opportunities for hiking, sightseeing, and experiencing solitude in Brown's Canyon would be maintained. Moreover, visitors would have greater opportunities to view bighorn sheep.

Conclusion. *Enhanced Wilderness* would preserve all the wilderness values protected by the *Proposed Action,* better protect the scenery of and opportunities for solitude in Brown's Canyon, and preserve more areas important to bighorn sheep.

Limited Wilderness

Limited Wilderness would designate 24,735 acres of the Harquahala Mountains as wilderness, preserving the same resources as would the *Proposed Action* but protecting slightly less acreage. This area proposed for designation would exclude mining claim areas that BLM might be unable to effectively manage as wilderness. The quality of recreation and solitude opportunities would not change except along some ridges and canyons at the unit's southern edge. Here opportunities for solitude and recreation could be diminished by exposure to human influences outside the unit.

Conclusion. *Limited Wilderness* would preserve essentially the same wilderness values as would the *Proposed Action* but would preserve a smaller area. The quality of recreation and solitude opportunities would little change except near areas where the boundary is changed.

No Wilderness

Under *No Wilderness,* none of the Harquahala Mountain WSA would be designated wilderness. If not protected by wilderness designation, wilderness values could be lost, primarily to mining, rights-of-way, and road building. Mineral exploration and development could occur in areas of highest wilderness value. Wilderness values that might be lost through nondesignation include a pristine chaparral grassland, habitat for 12 special-status species, historic and prehistoric cultural sites, exceptional scenic values, recreational diversity, and opportunities for seclusion.

Desert bighorn sheep are particularly sensitive to human disturbance. Any decline in the bighorn herd would be a significant loss of wilderness values because the presence of bighorn is a major supplemental wilderness value and a strong indicator of the naturalness and wildness of an area. Disturbed cultural resources would result in a loss to both cultural scientists and hobbyists alike. Wildlife habitat disruption would lessen the value of some of the most productive and diverse desert range wildlife areas in Arizona, greatly reducing observation and study opportunities.

The Federal Aviation Administration is placing a radar site on Harquahala Peak outside the WSA, and a demand is expected for more communication sites on the peak. The continued expansion of rights-of-way into more sensitive portions of the peak and adjacent basin area would harm wildlife, vegetation, and visual resources.

Off-site benefits of wilderness would also be lost because the preservation of the views of the WSA from the surrounding plains could not be assured. Road building and mining would mar the WSA's scenic grandeur to residents and travelers across a wide area. Recent road building for a mine on Harquahala Peak can be seen from 12 miles away.

Grazing would continue to little impact wilderness values unless a large number of range developments and more access routes are built. The WSA's terrain is extreme and varied and disperses cattle so as to reduce grazing impacts. Continued development of roads or waters could spread cattle into the grasslands on the Harquahalas' north slope degrading this pristine environment.

Oil and gas exploration and extraction might occur, but they would probably be confined to the less rugged bajadas and desert plains. New roads in these areas would be visually distracting but would not impact the wilderness values of the mountainous interior.

Conclusion. Nondesignation of Harquahala Mountains would allow for potential land uses to degrade or eliminate the unit's naturalness, scenery, plants and animals, and opportunities for recreation and solitude. Opportunities for scientific use and study of the unit's plant and animal ecosystems in a natural environment would be foregone.

BIG HORN MOUNTAINS

Proposed Action

Designating 21,900 acres under the *Proposed Action* would preserve this WSA's outstanding scenery as well as recreation and solitude opportunities. The western side of the Big Horn Mountains forms the core of this pristine area. This rugged and broken range steeply rises 1,800 feet from the surrounding desert plain and is dominated by the black prominence of Big Horn Peak. This dramatic rise gives the unit an exceptionally high scenic value both for visitors within and travelers outside the WSA.

Designation would also maintain a wide variety of wilderness experiences for the user. The WSA's easily accessible and secluded interior provide excellent opportunities for solitude. The diversity of recreation opportunities, ranging from day hiking to technical rock climbing, makes the area attractive to a variety of primitive recreation enthusiasts. Moreover, the WSA's closeness to a large metropolitan population would also help satisfy an increasing need for accessible and high-quality wilderness areas near urban centers.

Opportunities for cultural, wildlife, and geological study are also excellent. Wilderness would better protect areas likely to have cultural resources and habitats for four special-status wildlife species. In addition, opportunities to study and photograph the variety of rocks and landforms would be preserved for the natural history enthusiasts.

Conclusion. Wilderness would provide exceptional opportunities for scenic, recreational, and solitude experiences within a 1.5 hour drive of metropolitan Phoenix, helping to satisfy a congressional goal of providing wilderness experiences close to growing urban populations.

All Wilderness

All Wilderness would have the same impacts on wilderness values as would the *Proposed Action,* except that *All Wilderness* would designate 837 acres recommended as nonsuitable by the *Proposed Action,* and *All Wilderness* would not acquire 400 acres of private land. Though the nonacquisition of the private land would not adversely affect the manageability or quality of the wilderness resource, the addition of the 837 acres of the WSA might conflict with mineral development along the area's northeast edge and utility corridor placement in the southeastern corner.

A small minerals conflict may exist in the unit's northeastern corner because mining claims overlap the WSA from an area of mineral potential. Many of these claims are pre-FLPMA and may have valid existing rights. A patented parcel also lies next to the WSA boundary. This mineral situation may interfere with BLM's wilderness management of this portion of the WSA.

A major management problem may occur in the WSA's southeastern corner where a possible second Palo Verde-Devers 500-kV powerline may pass and where designation would require that future powerlines be placed on a hillside south of the WSA. Such placement would create several scars and highly noticeable skylining visible from within the wilderness area. The *Proposed Action's* slight boundary change would allow future powerlines to be placed low in the valley between the Big Horn Range and Burnt Mountain, thus avoiding serious visual impacts that could occur under *All Wilderness.*

Conclusion. Wilderness designation would preserve most of the WSA's wilderness values but could cause a loss of some wilderness values by the placement of unmanageable boundaries.

Limited Wilderness

Limited Wilderness would designate a 13,010-acre portion of the Big Horn Mountain WSA, primarily the mountainous core, preserving climbing, hiking, wildlife, and scenic values associated with these rugged mountains. Recreation opportunities would be somewhat diminished because of the area's narrow width and small size. Opportunities for less rugged hiking and horseback riding would be poor. Moreover, the ability of visitors to experience solitude would be lessened, since wilderness users would be more likely to encounter each other within a smaller area.

While opportunities for solitude and primitive recreation remain outstanding, the quality of these opportunities would somewhat diminish because wilderness visitors would have to confine much of their activity to mountainous areas. Many wilderness users see the desert plains as an integral part of Sonoran Desert mountain ranges. The exclusion of large portions of desert plain might diminish the quality of overall wilderness experiences.

Conclusion. *Limited Wilderness* would preserve in a natural condition the scenery of the steep Big Horn Mountains; however, the quality and quantity of solitude and recreational opportunities would be diminished by its boundary changes.

No Wilderness

No Wilderness would designate as wilderness none of the 22,337-acre Big Horn Mountains WSA, permitting land uses that over time could greatly erode the WSA's wilderness values. Continued mineral and bulldozer exploration, access construction, oil and gas development, more rangeland developments, and utility and other right-of-way encroachment would continue to diminish the essentially pristine environment and associated recreation and solitude opportunities within the Big Horns.

Perhaps the greatest loss from nondesignation would be the failure to locate wilderness areas close to population centers. The chance to provide additional high quality wilderness experiences within a short drive of Phoenix would be lost.

Furthermore, the WSA's dramatic visual resources would not be protected. The steep Big Horn Range is seen and enjoyed by thousands of motorists each day as they travel Interstate 10 south of the area. The benefits of the WSA's scenery extends far outside its boundaries and would be lost if impaired by mining, roads, or more utility lines.

Conclusion. Nondesignation of the Big Horn Mountains WSA would allow potential land uses to degrade the wilderness values of naturalness, solitude, primitive recreation, and supplemental features protected by the *Proposed Action.*

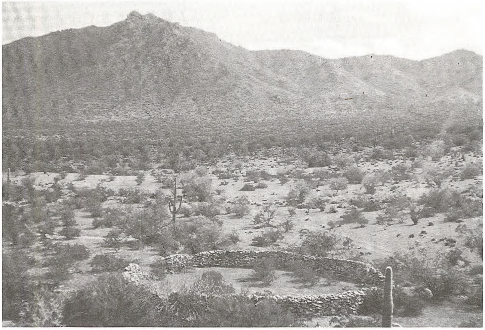
HUMMINGBIRD SPRINGS

Proposed Action

Designation of the 16,540-acre Hummingbird Springs WSA (Map 2-10) would ensure the preservation of scenery, recreation and solitude opportunities, and wildlife habitats around Sugarloaf Mountain. The area is dominated by the colorful volcanic prominence of Sugarloaf Mountain, a picturesque landmark encircled by lower peaks, hills, washes, and bajadas that provide opportunities for solitude, hiking, backpacking, horseback riding, and scenic, geologic, and botanical sightseeing.

Primitive recreation and solitude would remain outstanding under the *Proposed Action* because the area's most interesting features and diverse topography would be designated. The overall quality of these opportunities, however, might be diminished for some because the smaller area designated under the *Proposed Action* might not be suitable for lengthy wilderness stays, extensive cross-country treks, or uninterrupted solitude.

As designated wilderness, the outstanding scenic, recreation, and solitude attributes of Hummingbird Springs, combined with its closeness to the Phoenix metropolitan area, would satisfy a growing need for



Upper Sonoran WSAs contain a variety of historic and prehistoric cultural resources such as the stone corral pictured above. Wilderness designation would better protect some of these resources from construction disturbance and theft.

wilderness near urban populations. Furthermore, the area would better protect 10,200 acres of crucial bighorn sheep habitat, 5,200 acres of crucial desert tortoise habitat, and habitat important to four other special-status wildlife species. Wildlife sightseeing opportunities would be maintained by preserving these habitats within designated wilderness. Wilderness designation also represents more protection for 15,900 acres likely to have undisturbed cultural resources. Such resources could be important for future use and study by archaeologists and wilderness visitors.

Conclusion. Wilderness would preserve a scenic landmark and maintain recreation, solitude, scenic, cultural, and wildlife values in an undisturbed condition for use by nearby urban populations.

All Wilderness

All Wilderness would designate 69,600 acres as wilderness, preserving in an undisturbed condition 53,060 more acres than would the *Proposed Action*. Designation would protect 14 miles of the eastern portion of the rolling Big Horn Range, including lengthy desert washes and large, pristine desert bajadas. Wilderness designation would maintain excellent opportunities for solitude and extensive cross-country hiking, camping, backpacking, horseback riding, photography, and sightseeing provided by the unit's large size and complexity of landforms.

Wilderness designation would also improve protection for important cultural and wildlife values. These values contribute to user enjoyment and could be needed for scientific and educational study. Over 67,000 acres likely to have sensitive cultural resources, 16,920 acres of crucial desert tortoise habitat, and 22,330 acres of crucial bighorn sheep use and lambing areas would remain undisturbed under *All Wilderness.*

Under *All Wilderness,* Hummingbird Springs would represent the largest BLM-administered wilderness area near the Phoenix metropolitan area.

The combined conflict with mineral development, vehicular access, irregular configuration, inholdings, and a significant imprint (Aguila microwave tower) cherrystemmed into the center of the WSA, would make it difficult to effectively manage the entire 69,600 acres as wilderness. Numerous mining claims are clustered in portions of this unit, and mining interest in these areas is on the upswing. Several strategic minerals have been produced in areas next to the WSA.

Wilderness quality would be severely compromised by the WSA's configuration, which increases the chance of encountering outside sights and sounds. Reopening or new development of the peripheral mines would increase the effect of outside imprints and negate most benefits of wilderness preservation around some of the unit's boundary. Solitude, recreation opportunities, and scenic values may be compromised in those areas.

Conclusion. High quality wilderness experiences within a large undisturbed series of desert mountains and plains would be preserved for future generations. The wilderness value of the area is enhanced by its closeness to a large metropolitan area. Wilderness values in portions of the area, however, may be degraded because potential land uses within and outside the area may not allow BLM to effectively manage the area as wilderness.

Enhanced Wilderness

Enhanced Wilderness would designate 25,370 acres as wilderness, protecting the scenic terrain around Sugarloaf Mountain as well as incorporating much larger portions of pristine desert and rolling mountainous terrain of the Big Horns west of Sugarloaf. The 8,470-acre increase in size between *Enhanced Wilderness* and the *Proposed Action* would greatly contribute to improved opportunities for solitude and expanded hiking, camping, backpacking, and horseback riding in a natural environment. Moreover, wildlife and cultural sightseeing and study opportunities would be greater than under the *Proposed Action.* Nearly 16,920 acres of crucial desert tortoise and 22,330 acres of crucial bighorn sheep habitat would be protected, improving opportunities for observing these and other creatures within natural ecosystems. Moreover, over 24,000 acres of the area to be designated might contain undisturbed cultural resources important for future study.

Conclusion. *Enhanced Wilderness* would effectively manage and preserve opportunities for both solitude and primitive recreation in a natural setting near a growing urban population.

No Wilderness

No Wilderness would not designate Hummingbird Springs as wilderness, permitting land uses that might impair the WSA's naturalness, scenery, and solitude and primitive recreation opportunities. Without wilderness protection, many of the WSA's scenic features, wildlife habitats (desert bighorn and tortoise), and wilderness opportunities, over the long term, might be lost to mining, range developments, communication sites, powerlines, road construction, and other right-of-way encroachments. Scenic vistas of undisturbed rolling hills and bajadas and solitude opportunities would be most impaired by such activities. Wilderness values are likely to remain unchanged over most of the unit in the short term, with mining, rights-of-way, and road building confined to areas with high mining claim concentrations and ongoing mining along the unit's edge.

Conclusion. Nondesignation of Hummingbird Springs' 67,680 acres would allow potential land uses that might degrade or eliminate the WSA's natural character, solitude, scenic values, and recreation opportunities. tunities.

SADDLE MOUNTAIN

All Wilderness

Designating Saddle Mountain (Map 2-12) as wilderness would best preserve the area's array of scenic, recreational, geologic, and archaeological features for visitor enjoyment and potential interpretive use. Designation would maintain the diversity and quality of Saddle Mountain's exceptional recreational opportunities.

Furthermore, the area is easily accessible and just over an hour's drive from metropolitan Phoenix. Saddle Mountain is noted by rock collectors for its chalcedony and fire agate and is a popular picnicking, day hiking, camping, and rock climbing site. In addition, the dramatic geology provides highly photogenic and educational scenery. The striking volcanic upthrust of the mountain has created a highly visual and educational example of geologic forces. Volcanic features are overlain with scattered outcroppings of fire agate and chalcedony. The entire area has strong interpretive qualities. Visitors traveling interstate highways outside the WSA would also cointinue to enjoy the scenic vistas preserved by wilderness.

One unique feature better protected by wilderness designation is cultural sites, especially rock art or petroglyphs. Wilderness would preserve these sites for future use and study by prohibiting motorized vehicles and discouraging vandalism and theft.

Conclusion. Designation would preserve Saddle Mountain's unique volcanic scenery and geology, cultural resources, and recreation opportunities for future visitors. Furthermore, BLM would help satisfy a national goal to establish wilderness areas close to urban populations.

No Wilderness

Nondesignation would allow land uses that could seriously degrade the WSA's pristine character and irreparably harm the unit's widely recognized scenery and cultural resources. The unit's small size makes it highly susceptible to new man-made features. Moreover, the feasibility of rehabilitating newly disturbed areas would be slight. Poor soils and sparse rainfall make natural rehabilitation a lengthy process.

Vehicle ways penetrating the WSA and car-camps have not yet significantly impacted wilderness values. During the high-use winter season, however, rock collectors and winter visitors congregate in increasing numbers. Long-term placement of trailers and campers and greater recreation use, including rock collecting, would eventually diminish the area's opportunities for solitude and primitive recreation.

Cultural resources, including rock art, would continue to be subject to increasing theft and vandalism, exacerbated by ORV access. Mining could also irreparably harm cultural resources.

Some mining has occurred but has not yet caused any significant damage. Increases in mining could reduce wilderness values because of the WSA's small size. New mines or exploration would be readily apparent. Oil and gas exploration also could occur in Saddle Mountain, and the operation of drill sites and additional or upgraded access could degrade wilderness values.

In addition, more roads could be built or vehicle ways improved. The present border road is primitive and requires heavy duty high-clearance vehicles. Improved roads could lead to increased occupation during the winter, increased ORV access and damage, and continued destruction of scenery, solitude, wilderness values, cultural resources, and primitive recreation opportunities.

Conclusion. Nondesignation of Saddle Mountain would allow potential land uses to degrade or destroy wilderness values, including spectacular scenery, cultural sites, and excellent primitive recreation and natural study opportunities. Failure to designate Saddle Mountain would also hinder the attaining of a congressional goal to establish wilderness areas and experiences close to urban areas.

BLACK MOUNTAINS/IVES PEAK

Proposed Action

Designating the 13,220 acres of Black Mountains/Ives Peak WSA (Map 2-13) would preserve for visitors within and outside the study area a striking series of escarpments interspersed with steep canyons. Wilderness designation would also maintain existing opportunities for solitude and primitive recreation, including hiking, backpacking, camping, rock climbing or scrambling, and photography. Designation would also protect areas likely to have cultural resources and improve the potential for the successful reintroduction of bighorn sheep into the WSA.

Conclusion. Designation would preserve the scenic character and recreation opportunities of a scenic portion of the Black Mountains.

All Wilderness

Designating the entire Black Mountains/Ives Peak WSA would protect all the WSA's wilderness values. BLM, however, would not acquire adjacent state lands needed for effectively managing wilderness use or for preserving and enhancing the WSA's recreation value, solitude, and scenic resources.

The WSA's best scenery and highest wilderness values occur along the north and east cliff faces of the Black Mountains. The lower two-thirds of these cliffs are on state land. Hikers on the ridgeline of the designated area would have their wilderness experience diminished, although still outstanding, if these adjacent lands are developed or marred by surface disturbance. The wilderness qualities of much of the WSA would be compromised by the impairment of the scenic character of these cliffs. Failure to acquire these adjacent lands might lessen the value of the area as designated wilderness. If the state land remains undeveloped, however, existing wilderness values would remain outstanding.

All Wilderness would also designate the WSA's southern quarter, where most rangeland developments, vehicle ways, exploration pits, and mining claims occur. A cherrystemmed road also lies within this portion. These human influences lower the natural character and solitude opportunities in this area.

Conclusion. Wilderness designation under *All Wilderness* would preserve the WSA's wilderness values, but would fail to acquire adjacent state lands necessary to develop, enhance, and better manage the scenic wilderness resources of Black Mountains/Ives Peak.

No Wilderness

Under *No Wilderness,* Black Mountains/Ives Peak WSA would not be designated wilderness, and land uses detrimental to the area's scenery, recreation, solitude, and wildlife might be allowed. Under present conditions, resource uses and trends do not appear to threaten wilderness values. The area has few mining claims and there are no pressing needs for rangeland developments or rights-of-way. Wilderness values could be harmed, however, if mining occurs, new range developments and associated roads are built, and rights-of-way are developed. The area may also lose its value as a potential bighorn sheep reintroduction site if substantial disturbance occurs. Furthermore, BLM might dispose of the northeast portion of the WSA in a land action because this area is an isolated tract that is difficult for BLM to effectively manage.

Conclusion. Nondesignation of Black Mountains/Ives Peak would allow for land uses that might degrade or eliminate the WSA's naturalness, opportunities for solitude and primitive recreation, and value as a reintroduction site for desert bighorn sheep.

TRES ALAMOS

All Wilderness

Wilderness designation of Tres Alamos WSA (Map 2-13) would have few beneficial impacts. Though designation would protect opportunities for solitude, preserve some areas likely to have cultural resources, and maintain habitat for potential reintroducing of the desert bighorn sheep into the Black Mountains, the quality of these wilderness values is low to moderate.

The WSA's scenic character is good, but the area's small size confines the opportunities for solitude and provides no recognized outstanding recreation opportunities. Furthermore, the attractive monolith of Tres Alamos is not entirely on public land. The eastern cliffs are on state lands.

Conclusion. Designating Tres Alamos WSA would only slightly increase or benefit the quality and representation of Sonoran Desert wilderness opportunities and experiences within the scope of the National Wilderness Preservation System.

No Wilderness

No Wilderness would not designate Tres Alamos WSA as wilderness, allowing land uses detrimental to WSA's scenic character, naturalness, and opportunities for solitude.

Mineral exploration, road building, and possible major mining could occur in the WSA because the area is believed to overlie an extension of the Anderson Mine uranium ore body. Mineral development would diminish opportunities for solitude and eliminate the value of the WSA as potential habitat for reintroducing bighorn sheep and existing habitat for other special-status wildlife. Wilderness values are not expected to be impacted in the near future, however, because low uranium prices will probably continue to discourage development of the WSA's 349 mining claims.

An intensively managed grazing allotment is included within a portion of the unit. New range developments, upgrading of existing improvements, and additional road access may be needed for grazing programs. These activities would impair the natural quality of affected portions of the WSA.

Conclusion. Nondesignation of Tres Alamos WSA would allow land uses detrimental to wilderness values. These land uses might degrade or eliminate scenery, opportunities for solitude, and the area's value as a possible bighorn sheep reintroduction site.

Impacts on Wildlife Habitat

Wilderness designation would generally protect wildlife habitat. This analysis reveals that cumulative habitat losses would occur under *No Wilderness* through the long term. The analysis assumes that traditional forms of wildlife habitat improvement projects used in the Phoenix District (spring developments, catchments, pothole developments, exclosures, and riparian rehabilitation techniques) will continue in wilderness areas as they have in WSAs under the Interim Management Policy.

The Wilderness Management Policy (Appendix 2) defines uses and control measures that would be allowed or restricted within designated wilderness areas. The following are some of these uses and restrictions that could affect wildlife habitat.

- No motorized vehicle use will be allowed unless authorized by the land manager.
- Fire control will be limited only to the protection of life, property, and critical resources.
- Insect and disease outbreaks will not be artificially controlled except to protect valuable resources outside the wilderness area.
- Hunting will be allowed subject to state and federal laws.

Table 4-2 shows crucial habitat that would be protected.

CONCLUSION BY WSA

Wabayuma Peak. The *Proposed Action* would protect 900 acres of ponderosa pine-Gambel oak habitat and 7,600 acres of chaparral habitat, assuring habitat maintenance for 12 special-status species. *All Wilderness* would protect the same habitat as would the *Proposed Action* but would protect 100 acres of riparian habitat used by zone-tailed hawks and other special-status species and 100 fewer acres of ponderosa pine-Gambel oak habitat. *Enhanced Wilderness* would have essentially the same impacts as *All Wilderness* but would protect differing acreages. Under *No Wilderness,* wildlife habitat on 900 acres of ponderosa pine-Gambel oak habitat and 7,600 acres of chaparral habitat would continue to be susceptible to the effects of mining, off-road vehicle (ORV) use, and other surface disturbance, resulting in cumulative habitat loss.

Planet. *All Wilderness* would protect 3,100 acres of crucial desert bighorn and pronghorn habitats. Under *No Wilderness,* loss of habitat and disturbances from mining, construction, ORV use, and other activities would continue on 1,800 acres of crucial pronghorn habitat and 1,300 acres of desert bighorn habitat.

Aubrey Peak. The *Proposed Action* would protect 14,200 acres of crucial desert bighorn habitat from such disturbances as ORV use and mining. The impacts of *All Wilderness* would be similar to those under the *Proposed Action* but would involve a smaller area. Under *No Wilderness,* land disturbance would continue to degrade desert bighorn habitat.

Black Mesa. No significant impacts to wildlife would occur under any alternative.

Rawhide Mountains. The *Proposed Action, All Wilderness,* and *Enhanced Wilderness* would protect at least 600 acres of valuable riparian habitat and 12 miles of aquatic habitat, benefiting 15 special-status species. In addition, *All Wilderness* would protect 1,200 acres of desert tortoise habitat. Under the *No Wilderness* alternative, 1,200 acres of desert tortoise habitat and over 600 acres of riparian and aquatic habitat along 12 miles of streams would be susceptible to mining and ORV use.

Arrastra Mountain. The *Proposed Action* and *Enhanced Wilderness* would protect 860 acres of riparian habitat along 21 miles of stream, supporting 15 special-status species. In addition, they would protect 24,400 acres of desert tortoise habitat. *All Wilderness* would protect 100 fewer acres of valuable riparian habitat than would the *Proposed Action. Limited Wilderness* would protect 580 acres of riparian habitat and 14,800 acres of desert tortoise habitat. Under *No Wilderness,* riparian and desert tortoise habitats would remain susceptible to development and surface disturbance.

Lower Burro Creek. The *Proposed Action, All Wilderness,* and *Limited Wilderness* alternatives would protect one of the most important wildlife assemblages on public lands in the Phoenix District on 360 acres of riparian habitat and along 10 miles of aquatic habitat. Habitat of 15 special-status species would be protected, including 3,350 acres of desert tortoise habitat. Under *No Wilderness,* activities destructive to wildlife habitat in the WSA would continue.

Upper Burro Creek. *All Wilderness* would protect over 810 acres of riparian habitat and 13,700 acres of crucial pronghorn habitat, enhancing the long-term survival of 17 special-status species in the area. Under *No Wilderness,* over 810 acres of riparian habitat along 8.5 miles of stream supporting 17 special-status species would not be protected from development and other surface disturbance. In addition, 13,700 acres of crucial

TABLE 4-2
CRUCIAL WILDLIFE HABITAT

			Acres Protected in			
WSAs	Habitat	WSA Acres	Proposed Action	All Wilderness	Enhanced Wilderness	Limited Wilderness
Wabayuma Peak	Riparian	100	0	100	100	0
	Ponderosa Pine	800	900	800	900	0
	Chaparral	7,600	7,600	7,600	7,600	0
Planet	Desert Bighorn Crucial	1,280	0	1,280	0	0
	Pronghorn Crucial	1,800	0	1,800	0	0
Aubrey Peak	Desert Bighorn Crucial	13,720	14,200	13,720	14,200	0
Black Mesa*	—	—	—	—	—	—
Rawhide Mountains	Riparian	600	600	600	600	0
	Desert Tortoise Crucial	1,200	0	1,200	0	0
Arrastra Mountain	Riparian	760	860	760	860	580
	Desert Tortoise Crucial	24,400	24,400	24,400	24,400	14,800
Lower Burro Creek	Riparian	360	360	360	360	360
	Desert Tortoise Crucial	3,350	3,350	3,350	3,350	3,350
Upper Burro Creek	Riparian	810	0	810	0	0
	Pronghorn Crucial	13,700	0	13,700	0	0
Peoples Canyon	Riparian	90	110	90	110	0
Buckskin Mountains	Desert Tortoise Crucial	15,860	0	15,860	0	0
Harcuvar Mountains	Chaparral	3,500	0	3,500	3,500	0
Hassayampa River Canyon	Riparian	260	0	260	0	0
Harquahala Mountains	Chaparral	5,000	5,000	5,000	5,000	5,000
	Riparian	10	10	10	10	10
	Desert Tortoise Crucial	14,780	14,780	14,780	13,500	14,780
	Desert Bighorn Crucial	34,700	26,300	34,700	31,400	24,200
Big Horn Mountains	Desert Bighorn Crucial	7,700	7,700	7,700	7,700	7,700
Hummingbird Springs	Desert Tortoise Crucial	16,920	5,200	16,920	5,200	0
	Desert Bighorn Crucial	22,330	10,200	22,330	20,000	0
Saddle Mountain*	—	—	—	—	—	—
Black Mountains/Ives Peak*	—	—	—	—	—	—
Tres Alamos*	—	—	—	—	—	—

* WSAs lacking crucial wildlife habitat.

pronghorn habitat would be susceptible to destruction.

Peoples Canyon. The *Proposed Action, All Wilderness,* and *Enhanced Wilderness* alternatives would protect a portion of riparian habitat used by 15 special-status species (Table 3-1). *No Wilderness* would leave the Peoples Canyon riparian area open to physical habitat degradation.

Buckskin Mountains. *All Wilderness* would protect over 15,800 acres of crucial desert tortoise habitat from destruction, whereas *No Wilderness* would make a large block of crucial desert tortoise habitat susceptible to physical habitat degradation.

Harcuvar Mountains. *All Wilderness* and *Enhanced Wilderness* would protect 3,500 acres of chaparral habitat from surface disturbance. Under *No Wilderness,* the isolated stand of chaparral habitat around Harcuvar Peak supporting eight special-status species would be susceptible to development, ORV use, and mining.

Hassayampa River Canyon. *All Wilderness* would protect 7 miles of stream and 260 acres of riparian habitat. *No Wilderness* would leave these areas, supporting 10 special-status species, susceptible to habitat destruction.

Harquahala Mountains. The *Proposed Action* and *Limited Wilderness* would protect the valuble chaparral habitat on Harquahala Mountain, 10 acres of riparian habitat, 26,300 (24,200 under *Limited Wilderness*) acres of crucial desert bighorn habitat, and a large block of desert tortoise habitat. This protection would ensure continued quality habitat for 12 special-status species (Table 3-1). *All Wilderness* would have the same impacts as the *Proposed Action,* except that nearly 9,400 more acres of desert bighorn habitat would be protected. *Enhanced Wilderness* would have impacts similar to *All Wilderness,* except for slight acreage differences. *No Wilderness* would allow the disturbance of the Harquahala Mountain habitats, which would have adverse cumulative effects on the WSA's special-status wildlife.

Big Horn Mountains. The *Proposed Action, All Wilderness,* and *Limited Wilderness* alternatives would protect nearly 8,000 acres of excellent desert bighorn habitat along with the habitat of four other special-status species (Table 3-1). Under *No Wilderness,* bighorn habitat would be vulnerable to mining, ORV use, and other activities destructive to habitat.

Hummingbird Springs. The *Proposed Action* would protect over 5,000 acres of desert tortoise habitat and 10,200 acres of crucial desert bighorn habitat (including lambing areas) from habitat destruction. In addition, it would protect the habitat of four other special-status species (Table 3-1). *All Wilderness* would protect the entire area of desert tortoise and desert bighorn habitats, 11,000 more acres of desert tortoise habitat and 12,000 more acres of bighorn habitat than would the *Proposed Action. Enhanced Wilderness* would have essentially the same impacts as the *Proposed Action,* except that 10,000 more acres would be protected. Under *No Wilderness,* all habitat would be vulnerable to destruction from mining, ORV use, and construction.

Saddle Mountain. No significant impacts would occur to wildlife under any alternative.

Black Mountains/Ives Peak. Under the *Proposed Action* and *All Wilderness* alternatives, wilderness designation would facilitate desert bighorn reintroduction on over 11,000 acres of potential habitat and protect habitat of three special-status species. Under *No Wilderness,* habitat of three special-status species would not be protected from many surface disturbances.

Tres Alamos. *All Wilderness* would protect the habitat of three special-status species and protect nearly 6,000 acres for desert bighorn reintroduction. *No Wilderness* would subject Tres Alamos WSA to habitat destruction.

Impacts on Land Uses

The impacts of wilderness designation on land use in most of the EIS area's WSAs would be to prevent the building or expanding of utility corridors and communication sites and prevent the granting of rights-of-way in wilderness areas. *No Wilderness* would return all WSAs to full multiple-use management and open them to the above uses. The land use impacts of *No Wilderness* are not further discussed.

CONCLUSION BY WSA

Table 4-3 shows acreages of lands impacted by WSA and by alternative.

Wabayuma Peak. The land use impacts of the three alternatives that would designate Wabayuma Peak as wilderness would be similar. Wabayuma Peak has been proposed as a potential communication site with road access. Wilderness designation under the *Proposed Action, All Wilderness,* and *Enhanced Wilderness* alternatives would prevent the development of this site and access to it and require future utility lines, rights-of-way, and access roads to be built around the wilderness area.

Planet. Under the *All Wilderness* alternative 12,765 acres of the Planet WSA would be designated wilderness. Designation would prohibit expanding the San Juan-El Paso utility corridor, which lies along the WSA's southern and eastern boundaries. Wilderness designation would reduce opportunities for access to and expansion of existing corridors and development of proposed utility corridors and communications sites within the designated area.

Aubrey Peak. Both alternatives would prevent the expansion into the WSA of the San Juan-El Paso utility corridor and maintenance road and the Department of Energy 69-kV powerline on the southern boundary. Wilderness designation would also prevent development of a communication site and access on Aubrey Peak.

Black Mesa. The 69-kV wooden pole powerline crosses the WSA and is being assessed for possible reconstruction. *All Wilderness* would prohibit this corridor's expansion into the WSA. Black Mesa has also been proposed as a communication site with road access, which would be prohibited in a wilderness area.

Rawhide Mountains. Under all three alternatives, future utility lines or roads would not be built within the WSA. This restriction could limit further expansion of the San Juan-El Paso corridor along the WSA's west boundary. (The WSA boundary follows the existing pipeline right-of-way.)

Arrastra Mountain. The *Proposed Action, All Wilderness, Enhanced Wilderness,* and *Limited Wilderness* alternatives would reduce opportunities for expanding the Big Sandy-Phoenix utility corridor and for developing future access, rights-of-way, and communication sites.

Lower Burro Creek. Four alternatives would designate Lower Burro Creek WSA as wilderness. A 69-kV wooden pole powerline within the Parker-Bagdad corridor crosses the WSA, paralleled in part by a rough vehicle access route. A Department of Energy 345-kV line, which parallels State Highway 93 (Big Sandy-Phoenix corridor), is the western boundary for the

TABLE 4-3
LAND AND MINERAL ESTATE ACQUISITIONS NEEDED
FOR WILDERNESS MANAGEMENT

WSA Acreage to be Designated Acres Needed to be Acquired	Proposed Action	All Wilderness	Enhanced Wilderness	Limited Wilderness
Wabayuma	12,505	38,450	40,090	NA
Mineral Estate Only	4,720	21,300	21,300	0
Mineral and Surface Estates	1,360	1,720	3,360	0
Planet	NA	12,765	NA	NA
Mineral Estate Only	0	7,040	0	0
Aubrey Peak	16,310	15,440	NA	NA
Mineral Estate Only	9,420	9,420	0	0
Mineral and Surface Estates	840	200	0	0
Black Mesa	NA	17,010	NA	NA
Mineral Estate Only	0	9,020	0	0
Rawhide Mountains	17,600	62,300	47,850	NA
Mineral Estate Only	2,080	6,360	4,760	0
Mineral and Surface Estates	0	0	400	0
Arrastra Mountain-Peoples Canyon	125,270	NA	127,350	NA
Mineral Estate Only	10,600	0	10,600	0
Surface Estate Only	4,160	0	4,160	0
Mineral and Surface Estates	5,980	0	6,060	0
Arrastra Mountain	NA	114,310	NA	78,775
Mineral Estate Only	0	10,600	0	2,160
Mineral and Surface Estates	0	660	0	20
Lower Burro Creek	24,500	22,300	24,500	19,400
Mineral Estate Only	640	640	640	0
Mineral and Surface Estates	1,980	0	1,980	0
Upper Burro Creek	NA	28,030	NA	NA
Mineral Estate Only	0	6,400	0	0
Mineral and Surface Estates	0	640	0	0
Peoples Canyon	NA	3,480	NA	NA
Acres Needed to be Acquired	0	0	0	0
Buckskin Mountains	NA	48,462	NA	NA
Mineral and Surface Estates	0	880	0	0
Harcuvar Mountains	NA	76,738	43,180	NA
Mineral Estate Only	0	5,540	0	0
Mineral and Surface Estates	0	1,960	640	0
Hassayampa River Canyon	NA	22,180	NA	NA
Mineral and Surface Estates	0	280	0	0
Harquahala Mountains	26,780	74,675	32,795	24,735
Mineral Estate Only	0	1,200	0	0
Mineral and Surface Estates	0	800	160	0
Big Horn Mountains	21,900	22,337	NA	13,010
Mineral Estate Only	1,100	1,100	0	640
Mineral and Surface Estates	400	0	0	0
Hummingbird Springs	15,900	69,600	25,370	NA
Mineral Estate Only	640	1,000	640	0
Mineral and Surface Estates	640	1,920	640	0
Saddle Mountain	NA	5,500	NA	NA
Acres Needed to be Acquired	0	0	0	0
Black Mountains/Ives Peak	13,220	10,345	NA	NA
Mineral Estate Only	2,080	640	0	0
Mineral and Surface Estates	3,440	40	0	0
Tres Alamos	NA	8,910	NA	NA
Mineral Estate Only	0	30	0	0

NA = Not proposed for designation under this alternative.

WSA. Wilderness designation under all four alternatives would not allow these utility corridors to expand or allow development of potential geothermal facilities.

Upper Burro Creek. Wilderness designation would hinder opportunities to develop access, rights-of-way, communication sites, and potential geothermal resources in the unit.

Peoples Canyon. Three alternatives would designate Peoples Canyon WSA as wilderness. Arizona Public Service (APS) has a proposed right-of-way for a 115-kV powerline across state land east and south of Peoples Canyon to service the Anderson Mine. The three alternatives proposing wilderness designation would prohibit expanding this utility corridor, issuing future rights-of-way, and developing communication sites and vehicle access in the WSA.

Buckskin Mountains. Designation would prohibit expanding irrigated agriculture into the WSA from the Butler Valley to the south and would prohibit expanding the San Juan-El Paso corridor and the Parker-Liberty utility corridor. These corridors include the existing Bureau of Reclamation 161-kV and 230-kV power transmission lines, which run along the WSA's southwest border.

Harcuvar Mountains. Two alternatives would designate Harcuvar Mountains WSA as wilderness. The *All Wilderness* and *Enhanced Wilderness* alternatives would limit opportunities for expanding the Pete Smith Peak communication site, the San Juan-El Paso corridor, and the Parker-Liberty utility corridor and prevent the development of access.

Hassayampa River Canyon. The *All Wilderness* alternative would prevent expanding the Wickenburg-Yarnell corridor and issuing of rights-of-way for communication sites, powerlines, and vehicle access.

Harquahala Mountains. Four alternatives would designate Harquahala Mountains WSA as wilderness. Two utility corridors surround the WSA: Wenden to Wickenburg and Parker to Liberty. Under *All Wilderness,* these corridors could not be expanded into the WSA.

Demand for communication sites on Harquahala Peak is expected, but wilderness designation under all four alternatives would prohibit such expansion.

Big Horn Mountains. Three alternatives would designate Big Horn Mountains WSA as wilderness. The Central Arizona Project (CAP) aqueduct and flood control structures and the Palo Verde-Devers 500-kV powerline corridor lie within a mile of the WSA's southern and southwestern borders. The *Proposed Action, All Wilderness,* and *Limited Wilderness* alternatives, however, would limit the future expansion of the Palo Verde-Devers corridor to the north. Moreover, they would prohibit future communication sites in the WSA and access to such facilities.

Hummingbird Springs. Three alternatives would designate Hummingbird Springs WSA as wilderness. All of the alternatives would hamper access development and limit the expansion of the CAP and Palo Verde-Devers corridor and the Aguila microwave relay station. Designation would also prevent issuing future rights-of-way for powerlines, communication sites, and access to such facilities.

Saddle Mountain. *All Wilderness* would prevent the development of future rights-of-way, access, and communication sites in the WSA.

Black Mountains/Ives Peak. Two alternatives would designate Black Mountains/Ives Peak WSA as wilderness. The Anderson Mine lies 2 miles west of the WSA, and its access road forms the WSA's southern boundary. If future development should occur, the construction could disturb wilderness values. An approved state right-of-way exists in the northwest corner of the WSA. Should the mine be fully activated in the future, the right-of-way will be used for powerlines, adversely impacting wilderness values. The *Proposed Action* and *All Wilderness* would limit opportunities for rights-of-way, communication sites, and access.

Tres Alamos. The *All Wilderness* alternative would hinder opportunities to expand the Anderson Mine Road right-of-way and develop access and communication sites.

Impacts on Mineral Exploration and Development

Wilderness designation sets guidelines for the uses allowed in a wilderness area. The following are some of the guidelines relating to mineral exploration and development.

1. No new mining claims may be filed after the date of designation.
2. All existing claims on the date of designation must be valid. Enough ore must be present so that a prudent person would be willing to invest time and money to develop a paying mine.
3. Valid existing claims can be mined within a designated wilderness area.
4. Before surface disturbance may begin on a valid mining claim, a mining plan of operation must be submitted to and approved by BLM.
5. BLM cannot restrict a mining operation on a valid claim so that mining is no longer economical.
6. Nonimpairing mineral exploration may be conducted in a designated wilderness area, but mining claims cannot be filed and mineral rights cannot be patented.

7. Minerals may not be leased after designation. If BLM issues leases before designation, stipulations cannot be so restrictive as to preclude development.
8. No permits for common variety minerals (i.e. sand and gravel) will be issued after designation.

The major impact of wilderness designation would be to prohibit mining any known subeconomic or any undiscovered mineral values. This prohibition does not destroy mineral deposits but prevents their exploitation should prices ever rise, a technological breakthrough occur, or something else occur that makes a deposit economic. Companies have shut down working mines in Arizona due to recent price reductions in metals. These ore reserves are now subeconomic resources.

Existing data show that none of the 18 WSAs have mineral values greater than those known for the Mineral Park Mine north of Kingman. That economic conditions have recently forced this mine to shut down suggests that none of the WSA's mining claims now located or those to be located before designation will be economic.

Mineral leasing in WSAs would probably continue to taper off unless oil and gas are found or a breakthrough occurs in the area of geothermal energy. Deposits found within 10 years after designation could be developed from existing leases. Deposits found after predesignation leases expire could not be exploited.

Wilderness designation would prohibit the issuance of mineral material permits but would not significantly affect mineral production because such materials have a high bulk and low unit cost, making them expensive to transport long distances. No major markets for common variety minerals exist near any of the 18 WSAs.

CONCLUSION

Impacts by alternative are directly related to the number and mineral potential of the acres that would be withdrawn from location or be more restricted if leased. These impacts are shown in Table 4-4.

Impacts on Protected Plants

Wilderness designation would provide an added layer of protection for the nine species listed in Table 3-5. BLM's proposed rangeland management program would also protect these species through fenced exclosures, designated areas of critical environmental concern (ACECs), and intensive grazing management, which would lower utilization, improve plant vigor, and increase reproduction through the use of minimum rest periods (BLM, 1981a; 1982b).

Only one sensitive plant, *Thelypterus puberula* var. *sonorensis,* a riparian species, could be significantly impacted by hikers trampling them with the expected increase in visitor use to the Peoples Canyon WSA under all alternatives except *Enhanced Wilderness* and *No Wilderness.*

CONCLUSION

Wilderness designation would benefit all protected plants except *Thelpyterus puberula* var. *sonorensis.*

TABLE 4-4
SUMMARY OF IMPACTS ON MINERAL
EXPLORATION AND DEVELOPMENT

Impacted Elements	Proposed Action	All Wilderness	Enhanced Wilderness	Limited Wilderness	No Wilderness
Acres Withdrawn from Mineral Entry	280,165	652,832	398,065	135,920	0
Number of WSAs	11	18	12	4	0
Acres of More and Moderately Favorable Mineral Potential	148,305	363,514	217,181	84,326	0
Number of Strategic or Critical Minerals*	5	5	4	3	0
Number of Mining Claims	1,481	2,219	1,517	772	0

* See Table 3-3 for minerals.

Impacts on Rangeland Management

Designating wilderness areas within grazing allotments could affect BLM's proposed rangeland management program in varying ways. Effects would depend upon site-by-site situations and requirements. BLM's grazing program is designed to improve or maintain rangeland condition by implementing intensive, less intensive, and nonintensive grazing management. BLM would concentrate efforts in areas that would respond to management in a cost-effective manner and show a potential for improvement. Intensive management may require developing grazing systems that would change grazing use patterns, building new rangeland developments to facilitate grazing management, and being flexible in adjusting livestock numbers when monitoring and climatic conditions show a need.

Allotment management plans (AMPs) have not yet been prepared, and locations for new rangeland developments have not been set for all allotments proposed for intensive management. Although BLM is not proposing new rangeland developments for less intensive and nonintensive allotments, it may prepare AMPs in cooperation with allottees and other affected parties to enhance multiple-use management (BLM, 1982b).

The impact of wilderness designation on allotments would depend on the proposed management, amount of WSA acres within allotments, and wilderness alternative selected for each WSA. Not all allotments would be equally affected, since allotment acreages in WSAs would undergo wilderness constraints (Appendix 2) that might prevent BLM and livestock operators from implementing intensive grazing management. Rangeland management on allotments with low percentages of wilderness would not be significantly affected.

On allotments having large areas in WSAs, ranching operations may have to change to accommodate wilderness management. To maintain rangeland developments, however, occasional use of motor vehicles may be allowed where such use occurred before designation (Appendix 2).

BLM would authorize routes and schedules for routine maintenance of rangeland developments. Areas now serviced by motor vehicle may have to be serviced by horses where the use of motor vehicles conflicts with wilderness objectives (Chapter 1). To reduce the visual impact of new rangeland developments, these developments may have to be built and maintained with natural materials. Construction and maintenance costs would thus increase, depending on the type of development and its location. Allotments with larger amounts of wilderness would be impacted the most, as would allotments proposed for intensive grazing management. Intensively managed allotments would require more vehicle travel than other allotments and would also require the building and maintenance of rangeland developments.

Because proposed rangeland improvement locations have not been set for some allotments, the impacts on each allotment cannot be easily assessed. Any new rangeland developments proposed within wilderness areas must meet the criteria on pages 23-25 of the Wilderness Management Policy (Appendix 2). Through BLM's rangeland program, livestock numbers would be allowed to increase when monitoring reveals that enough forage exists. Forage, however, would first be allocated to wildlife and burros.

Wilderness designation would not prohibit grazing in WSAs that were grazed before the passage of FLPMA in 1976 (Appendix 2). The number of livestock allowed to graze in WSAs, however, is expected to remain at levels existing when an area is designated. Livestock increases would be allowed only when increased livestock would not adversely impact wilderness or multiple-use values. New rangeland developments could not be built solely to accommodate more livestock but could be allowed only if needed for resource protection.

Allotments with high percentages of wilderness would be impacted the most where BLM is proposing intensive grazing and large livestock reductions. Unless new rangeland developments are allowed to be built and maintained in some WSAs and livestock numbers allowed to increase when monitoring shows the forage to exist, wilderness designation may prevent BLM and the livestock operator from investing in intensive grazing management. Table 3-6 shows allotments and percentage of allotments affected by wilderness designation.

PROPOSED ACTION

The *Proposed Action* would designate 11 WSAs as wilderness. Within the WSAs 13 allotments are being proposed for intensive grazing management, 3 for less intensive management, 6 for nonintensive management, and 5 for ephemeral management. The amount of wilderness in allotments would vary from 4 percent on the Artillery Range allotment to 85 percent on the Arrastra Mountain allotment. Wilderness designation could prevent BLM and the allottees from implementing grazing management on the following 10 proposed intensive allotments: Arrastra Mountain, Artillery Range, Bagdad, Bateman Spring, Burro Creek Ranch, Aguila, Santa Maria (north of the Santa Maria River), Greenwood Community, Greenwood Peak Community, and Black Mesa. The remaining three allotments, Walnut Creek, Boriana "A", and Ohaco, are not expected to be significantly impacted because of the low percentage of WSA acres within their boundaries. Under intensive management, forage on these allotments would increase by 3,810 animal unit months (AUMs) as shown in Table 4-5. If wilderness designation prevents BLM from implementing intensive grazing management, the allotments would not reach their potentials for forage production. Since AMPs have not yet been prepared for the proposed intensive allotments, the impact to individual allotments cannot be assessed until locations for new rangeland developments are known. The other proposed intensive allotments would not be greatly impacted due either to the small amount of wilderness involved or the ruggedness of the terrain, which would preclude new rangeland developments.

Two allotments proposed for less intensive management, Palmerita and Echeverria, are not expected to be greatly impacted. No new rangeland developments are being proposed for allotments under less intensive and nonintensive grazing. But BLM, in cooperation with the allottees and other affected parties, could prepare AMPs if needed for resource protection. Unless rangeland developments are needed at a later date, less intensive allotments are not expected to be impacted significantly.

Five allotments proposed for ephemeral grazing only will be managed under nonintensive grazing management. No new rangeland developments are proposed, but they may be allowed if needed for resource protection. Ephemeral allotments are not expected to be significantly impacted. They will continue to be licensed for livestock on a yearly basis as BLM determines that forage is likely to exist and that ephemeral grazing would not conflict with other resources.

Conclusion

Wilderness designation of 11 WSAs would impact grazing management to varying degrees on 20 allotments. The most significant impact would be the loss of 3,810 potential AUMs if intensive grazing management is not implemented on 10 allotments because of wilderness constraints.

ALL WILDERNESS

The *All Wilderness* alternative proposes to designate as wilderness 18 WSAs, involving 16 allotments proposed for intensive management and 1 existing intensive

TABLE 4-5
POTENTIAL FORAGE INCREASES NOT REALIZED
UNDER WILDERNESS DESIGNATION*

Allotments**	Existing AUMs	Proposed Action	All Wilderness	Enhanced Wilderness	Limited Wilderness
Aguila	5,073	1,072	1,072	1,072	1,072
Arrastra Mountain	1,062	404	404	404	404
Artillery Range	1,487	581	581	581	NI
Bagdad	1,096	272	272	272	272
Bateman Spring	268	95	95	95	NI
Black Mesa	320	110	110	110	110
Boriana "A"	2,478	NI	754	754	NI
Burro Creek	264	NI	40	NI	NI
Burro Creek Ranch	781	656	656	656	656
Francis Creek	6,853	NI	3,170	NI	NI
Greenwood Community	284	133	133	133	NI
Greenwood Pk. Community	588	176	176	176	176
Loma Linda	1,602	NI	564	564	NI
Ohaco	1,476	NI	81	NI	NI
Santa Maria	2,337	311	311	311	311
Walnut Creek	2,637	NI	616	616	NI
Totals	28,606	3,810	9,035	5,744	3,001

* Forage is measured in animal unit months (AUMs) for public land only and is based on Proposed Action estimates from the Hualapai-Aquarius and Lower Gila North EISs (BLM 1981b; 1982b).

** Pipeline allotment would not be significantly impacted because an AMP has already been implemented and all needed improvements have been built.

NI = No significant impact to potential forage increases.

allotment, 9 allotments proposed for less intensive grazing management, 9 allotments proposed for nonintensive management, and 6 allotments proposed for ephemeral grazing only. Wilderness designation would impact allotments proposed for intensive grazing management the most, since 16 allotments would be involved. The impacts of the *All Wilderness* alternative would be the highest, since 13 more allotments would be designated wilderness than under any other alternative.

Wilderness designation might prevent the development of some AMPs on the 16 allotments proposed for intensive management (locations for rangeland developments have not been identified). If intensive management is not implemented on these allotments and rangeland developments are not allowed within the WSAs, then the range would be denied the opportunity to produce 9,035 potential AUMs of forage. Although no new rangeland developments are being proposed for allotments under less intensive and nonintensive management, BLM, in cooperation with the livestock operator and other affected parties, could implement AMPs for resource protection and enhancement.

Conclusion

Wilderness designation of 18 WSAs could impact grazing management on 41 allotments to varying degrees. The most significant impact could be the loss of up to 9,035 potential AUMs on 16 allotments proposed for intensive grazing management.

ENHANCED WILDERNESS

Enhanced Wilderness would designate 12 WSAs as wilderness and involve 13 allotments proposed for intensive grazing management, 6 less intensive allotments, 5 nonintensive allotments, and 4 allotments proposed for ephemeral grazing. As under the *Proposed Action,* allotments proposed for intensive grazing management where rangeland developments are being proposed would be impacted most. The extent of the impact would depend on the percentage of wilderness, the ruggedness of the terrain, and the developments planned. Unless BLM, in cooperation with the livestock operators, is allowed to construct and maintain new rangeland developments where needed in wilderness areas, wilderness designation could prevent the implementation of intensive grazing management and deny the range the opportunity to potentially produce 5,744 more AUMs of forage. Although no new rangeland developmewnts are being proposed for the remaining 15 less intensive, nonintensive, and ephemeral allotments, BLM, with the cooperation of allottees and other affected parties, could implement AMPs for resource protection and enhancement. Wilderness designation might affect those allotments with high percentages of wilderness in the future if new rangeland developments conflict with wilderness objectives.

Conclusion

Wilderness designation of 12 WSAs could impact grazing management on 28 allotments to varying degrees. A loss of 5,744 potential AUMs could be possible if wilderness constraints prevent BLM and livestock operators from implementing intensive grazing management on 13 allotments.

LIMITED WILDERNESS

The *Limited Wilderness* alternative would designate four WSAs as wilderness and involve nine allotments proposed for intensive grazing management, one less intensive allotment, one nonintensive allotment, and two allotments designated for ephemeral grazing only. Two of the allotments proposed for intensive grazing management are not expected to be impacted because of the low percentage of WSA acres within their boundaries. Under this alternative 3,001 AUMs could be foregone. Extent of impacts to allotments would depend on the percentage of wilderness in the allotments and the types of new rangeland developments to be constructed. Locations for rangeland developments have not been identified, and the impacts are thus difficult to assess.

Conclusion

Wilderness designation of four WSAs could affect grazing management on 12 allotments. The most significant impact could be the loss of up to 3,000 potential AUMs if intensive grazing management is not implemented on seven allotments because of wilderness constraints.

NO WILDERNESS

Conclusion

Under *No Wilderness* none of the 18 WSAs would be designated as wilderness. The rangeland management program would be implemented as described in the Lower Gila North Grazing EIS and the Hualapai-Aquarius Rangeland Program Summary, and livestock grazing management on allotments in the EIS area would not be impacted.

Impacts on Burros

Wilderness designation is not expected to greatly impact the estimated 280 burros to which BLM has allocated forage in the Alamo and Big Sandy Herd Management Areas (HMAs). Through herd management area plans (HMAPs), BLM would implement a live-capture program to reduce the herd 75 percent from 1,090 to 280 burros.

ALAMO AND HARQUAHALA HMAs

BLM is proposing to reduce the Alamo HMA population from 300 to 200 burros and to remove burros from the Harquahala-Big Horn HMA. Burro removal would reduce competition for forage, cover, water, and space among wildlife, livestock, and wild burros.

Wilderness designation would not significantly affect the 200 burros that would remain once BLM's live-capture program is completed for the Alamo burro use area. Burros might be impacted during removal, depending on the extent of wilderness contraints. BLM's live-capture program would involve the use of helicopters, temporary traps at existing waters, and construction or upgrading of temporary and existing trails for transporting captured burros.

Costs of burro removal might have to increase to prevent any degrading of wilderness values during removal. Helicopters might not be needed in all areas but would have to be allowed if trails and ways cannot be maintained and temporary traps cannot be moved to the new sites. Helicopter use would greatly increase the cost of burro removal.

BURRO CREEK BURRO USE AREA

Designating the Lower Burro Creek WSA would not impact the 22 burros that would remain in this burro use area at the end of the live-capture program. All 24,500 acres of the Lower Burro Creek WSA would be included within the Burro Creek use area and would be managed under the Wilderness Management Policy (Appendix 2).

Primary capture methods would involve the use of helicopters to herd burros to wranglers and the use of motor vehicles to remove approximately 270 burros from the Burro Creek Burro Use Area. Since helicopters would only be temporarily used, this analysis assumes that helicopters would be allowed in the wilderness area to protect wilderness resources, wildlife, and vegetation. Although no new roads are proposed for the capture program, some existing ways may have to be maintained and slightly improved to avoid injuring burros during transportation. Existing corrals and temporary traps may be used within the WSA if they meet the nonimpairment criteria of the Interim Management Policy.

To maintain a herd of 22 burros in the Burro Creek Burro Use Area once the initial reduction is completed, BLM would trap excess burros every 3 years or as funding is provided. All burros would be removed along Burro Creek to help restore the riparian habitat.

BIG SANDY BURRO USE AREA

From 60 to 70 percent of the Big Sandy Burro Use Area lies within the Arrastra Mountain WSA. Designation would not affect the 50-55 wild burros that would remain in the use area when the proposed live-capture burro removal is complete. A total of 440 burros or 89 percent of the burro population would be captured in the burro use area. The area's inaccessibility would require the use of helicopters to herd the burros to the wranglers, and some existing corrals and ways may need to be used and maintained to avoid injuring burros being confined and transported. Temporary traps and trails may need to be built but would be allowed only if they meet the nonimpairment criteria described in the Interim Management Policy (Appendix 1). A maintenance removal program would also be needed to maintain a burro management level. To maintain a viable, healthy herd of 50-55 burros, BLM would trap burros at waters or set up temporary traps every 3 years as funding is provided.

Conclusion

Wilderness designation would not impact the 280 wild burros that would remain once the live-capture program has been implemented. Burros could be impacted during the capture program, depending on the wilderness constraints placed on the affected WSAs.

Impacts on Cultural Resources

Wilderness designation would generally benefit cultural resources in the WSAs. Although all sites are affected by erosion and other natural forces, impacts of increased development and access are usually the most severe. Many of the direct impacts of ranching, mining, and road and utility construction can be mitigated, but most new development projects result in improved access to previously remote sites. Improved access and increased visitation to sites often result in illegal artifact collection and other forms of vandalism.

Vandalism is now the second most common agent of deterioration on cultural resources in the WSAs.

IMPACTS ON CULTURAL RESOURCES

Although an increase in the number of hikers and backpackers attracted to a designated WSA could also increase vandalism, the overall destruction would probably be much less than that associated with development under multiple-use management. An additional benefit of wilderness designation would be the protected status given privately owned sites acquired through exchange.

Although a ban on motorized vehicles would protect remote sites and stop vehicle-related damage to surface artifacts and features, it could increase the cost of scientific study and protection of cultural resources. Cultural resource surveys often rely heavily on the use of four-wheel drive vehicles and helicopters. Surveys conducted on foot would be more time consuming and expensive. Similarly, the number of sites that could be patrolled and monitored for vandalism would be limited. Scientific investigation, stabilization projects, and other physical protection measures relating to archaeological and historical sites would still be permitted as long as all activities are conducted without the use of mechanized equipment and in a manner that would not impair wilderness values.

The impacts of wilderness designation on cultural resources would be similar in all WSAs. Table 4-6 lists the agents of deterioration on cultural resources in the WSAs and the probable effect of wilderness designation or return to multiple-use management on the rate of each type of deterioration. Table 4-7 summarizes the acres of cultural resource sensitive areas that would be protected under each alternative.

TABLE 4-6
IMPACTS ON CULTURAL RESOURCES*

Agent of Deterioration	Existing Situation	Wilderness Designation	Multiple-Use Management
Erosion	Moderate	—/<	--/>
Vandalism	Moderate	<<	>>>
Livestock Trampling	Low	—	--/>
Road/Utility Construction	Moderate	<<<	>>
ORV Use	Low	<<<	>>
Mining	Moderate	<<	>>
Range Developments	Low	<<	>>

* Impacts compared to existing situation:
> = low increase   < = low decrease
>> = moderate increase   << = moderate decrease
>>> = high increase   <<< = high decrease
— no change

WSAs are now being managed so as not to impair wilderness values, and thus wilderness designation would not immediately change management and would not constitute an undertaking, as defined in 36 CRF 800.2(c)(4). Specific management strategies and planned actions will be set forth in the wilderness management plan developed for each designated wilderness area. At that time, in compliance with Section 106 of the Historic Preservation Act of 1966, BLM will contact the Arizona State Historic Preservation Office and the Advisory Council on Historic Preservation for their comments on the proposed wilderness management plan.

TABLE 4-7
CULTURAL RESOURCE SENSITIVE ACRES BY ALTERNATIVE*

WSAs	Proposed Action	All Wilderness	Enhanced Wilderness	Limited Wilderness	No Wilderness
Wabayuma Peak	1,000	15,000	15,000	0	0
Planet	0	0	0	0	0
Aubrey Peak	0	0	0	0	0
Black Mesa	0	2,000	0	0	0
Rawhide Mountains	0	2,000	2,000	0	0
Arrastra Mountain	22,000	22,000	22,000	14,000	0
Lower Burro Creek	17,900	16,000	17,900	15,000	0
Upper Burro Creek	0	24,000	0	0	0
Peoples Canyon	4,800	3,480	7,000	0	0
Buckskin Mountains	0	2,000	0	0	0
Harcuvar Mountains	0	11,000	5,800	0	0
Hassayampa River Canyon	0	5,800	0	0	0
Harquahala Mountains	22,400	40,000	25,600	24,000	0
Big Horn Mountains	21,500	22,337	21,500	13,000	0
Hummingbird Springs	15,900	67,680	24,730	0	0
Saddle Mountain	5,500	5,500	5,500	0	0
Black Mountains/Ives Peak	1,500	2,700	700	0	0
Tres Alamos	0	3,800	0	0	0
Total	112,500	245,297	147,730	66,000	0

* Sensitive areas that would be protected by wilderness designation.

CONCLUSION

Wilderness designation would protect the cultural resources by restricting uses in the areas. The following sensitive acres would be protected: *Proposed Action* – 112,500, *All Wilderness* – 245,297, *Enhanced Wilderness* – 147,730, *Limited Wilderness* – 66,000, and *No Wilderness* – none. Agents of deterioration would be reduced or remain unchanged (Table 4-6).

Impacts on Visual Resources

Wilderness designation would benefit the visual resources of all areas designated (Table 4-8). More restrictive management practices and visual resource management (VRM) objectives under the VRM Class I designation would prohibit or restrict visual intrusions. *No Wilderness* would not impact visual resources because BLM would continue to manage visual resources according to VRM classes identified through its land use planning. VRM classes, objectives, and required management practices are listed in the Visual Resources section of Chapter 3.

CONCLUSION

All areas designated wilderness would be given a VRM Class I designation. This designation would restrict or prohibit visual intrusions in the areas. The number of acres affected by this change is listed in Table 4-8.

Impacts on Recreation

To analyze impacts on recreation use, BLM recreation planners estimated existing annual visitor days by established WSA. They then projected annual visitor days (regardless of recreation activity) expected under each alternative. (Table 4-9 shows the projected change in annual visitor days by WSA.)

CONCLUSION

This analysis assumes that decreases in such recreation activities as ORV use would be accompanied by some increase in nonmotorized activities. Any change in visitor days, however, would depend on the geographical area (e.g. topography, presence of water, accessibility), existing recreation use, and the management alternative considered. Wilderness designation would result in the following increases in visitor days per year : *Proposed Action* – 6,200 days, *All Wilderness* – 3,000 days, *Enhanced Wilderness* – 6,100 days, and *Limited Wilderness* – 5,550 days. Under *No Wilderness* annual visitor use would not change.

TABLE 4-8
CLASS I VRM DESIGNATION
(Acres per Alternative)

WSAs	WSA Acres	Proposed Action	No Action	All Wilderness	Enhanced Wilderness	Limited Wilderness
Wabayuma Peak	36,730	12,505	0	38,450	40,090	0
Planet	12,765	0	0	12,765	0	0
Aubrey Peak	15,240	16,310	0	15,440	16,310	0
Black Mesa	17,010	0	0	17,010	0	0
Rawhide Mountains	62,300	17,640	0	62,300	47,850	0
Arrastra Mountain	113,650	125,270	0	114,310	127,350	80,875
Lower Burro Creek	22,300	24,500	0	22,300	24,500	19,400
Upper Burro Creek	27,390	0	0	28,030	0	0
Peoples Canyon	3,480	*	0	3,480	*	0
Buckskin Mountains	47,582	0	0	48,462	0	0
Harcuvar Mountains	74,778	0	0	76,738	43,180	0
Hassayampa River Canyon	21,900	0	0	22,180	0	0
Harquahala Mountains	73,875	26,780	0	74,675	32,795	24,735
Big Horn Mountains	22,337	21,900	0	22,337	21,900	13,010
Hummingbird Springs	67,680	16,540	0	69,600	25,370	0
Saddle Mountain	5,500	5,500	0	5,500	5,500	0
Black Mountains/Ives Peak	9,665	13,220	0	10,345	13,220	0
Tres Alamos	8,910	0	0	8,910	0	0
Total Acres	643,092	280,165	0	652,832	398,065	138,020

* Peoples Canyon WSA acreage is combined with Arrastra Mountain WSA acreage for these alternatives.

TABLE 4-9
POTENTIAL RECREATION VISITOR USE

	Annual Visitor Days*					
WSAs	Existing Situation	Proposed Action	All Wilderness	Enhanced Wilderness	Limited Wilderness	No Wilderness
Wabayuma Peak	3,100	3,200	3,300	3,300	3,100	3,100
Planet	50	50	100	50	50	50
Aubrey Peak	250	450	500	450	250	250
Black Mesa	450	450	500	450	450	450
Rawhide Mountains	2,250	2,800	950	2,500	2,250	2,250
Arrastra Mountain	8,250	8,400	8,400	8,400	9,200	8,250
Lower Burro Creek	1,200	4,100	4,100	4,100	4,150	1,200
Upper Burro Creek	700	700	1,200	700	700	700
Peoples Canyon	50	200	250	200	50	50
Buckskin Mountains	850	850	700	850	850	850
Harcuvar Mountains	2,650	2,650	2,650	2,800	2,650	2,650
Hassayampa River Canyon	900	900	950	900	900	900
Harquahala Mountains	1,900	3,350	2,000	3,350	3,350	1,900
Big Horn Mountains	300	450	450	450	500	300
Hummingbird Springs	1,200	1,350	950	1,300	1,200	1,200
Saddle Mountain	100	300	300	300	100	100
Black Mountains/Ives Peak	100	300	100	300	100	100
Tres Alamos	400	400	300	400	400	400
TOTAL	24,700	30,900	27,700	30,800	30,250	24,700

* Present annual visitor use for each WSA is estimated from recreation visitor use information in the Hualapai-Aquarius and Lower Gila North URAs. The primary sources for determining recreation use in the planning areas were grazing allottee interviews and Arizona Game and Fish Department hunter use publications.

Impacts on Economic Conditions

Wilderness designation might preclude BLM from developing allotment management plans (AMPs) on some of the EIS area's 37 allotments proposed for intensive management. AMPs have not yet been developed for these allotments, and how AMPs would be impacted by wilderness designation is unknown. Impacts, would, however, depend on an area's specific wilderness management plan. This EIS assumes that intensive management would not be implemented on allotments having 15 percent or more wilderness and that forage would not increase as expected. Table 4-5 shows existing and potential animal unit months (AUMs) of forage for each impacted allotment.

The loss of potential forage would result in a loss of potential revenue for ranchers. Studies have shown that ranches in the EIS area receive about $5 in net revenue (gross revenue minus cash costs) for each AUM grazed (BLM, 1981b; 1982b). Table 4-10 shows potential net revnue ranchers would lose because of a loss of potential AUMs under wilderness designation.

Increased forage is projected to increase ranch values by $125 per AUM, since ranch values are partially based on the forage grazing capacities of private, state, and federal lands that make up the ranch. Although BLM does not recognize federal grazing permits as real property, grazing permits are bought and sold and used as collateral for loans. Table 4-11 shows projected potential increases in individual ranch values that would not occur under wilderness designation.

Ranch operations on allotments with large amounts of wilderness may have to change to accommodate wilderness management. Some ranches using motorized vehicles may have to use horses. The time needed to complete certain tasks would increase, thereby increasing labor costs. No detailed information exists to determine cost increases to ranches in the EIS area, but studies in other states such as Oregon (Banks, 1981) have shown that the additional costs are slight.

CONCLUSION

Proposed Action

Range Impacts. Designating 11 WSAs as wilderness might prevent BLM from developing AMPs on 10 of the 37 allotments proposed for intensive management. Forage would thus not increase by 3,800 AUMs (Table 4-5), preventing annual net revenues from increasing by $19,000 (Table 4-10) and ranch values from increasing by $476,000. (Table 4-11 shows impacts to individual ranch values.) The loss of potential income from wilderness designation, however, would amount to less than 1 percent of the total income earned by the economic study area's (ESA's) livestock industry.

TABLE 4-10
POTENTIAL NET REVENUE[1] INCREASES NOT REALIZED
UNDER WILDERNESS DESIGNATION[2]

Allotments[3]	Existing Net Revenue	Proposed Action	All Wilderness	Enhanced Wilderness	Limited Wilderness
Aguila	$ 25,365	$ 5,360	$ 5,360	$ 5,360	$ 5,360
Arrastra Mountain	5,310	2,020	2,020	2,020	2,020
Artillery Range	7,435	2,905	2,905	2,905	NI
Bagdad	5,480	1,360	1,360	1,360	1,360
Bateman Spring	1,340	475	475	475	NI
Black Mesa	1,600	550	550	550	550
Boriana "A"	12,390	NI	3,770	3,770	NI
Burro Creek	1,320	NI	200	NI	NI
Burro Creek Ranch	3,905	3,280	3,280	3,280	3,280
Francis Creek	34,265	NI	15,850	NI	NI
Greenwood Community	1,420	665	665	665	NI
Greenwood Pk. Community	2,940	880	880	880	880
Loma Linda	8,010	NI	2,820	2,820	NI
Ohaco	7,380	NI	405	NI	NI
Santa Maria	11,685	1,555	1,555	1,555	1,555
Walnut Creek	13,185	NI	3,080	3,080	NI
Totals	143,030	19,050	45,175	28,720	15,005

[1] Revenue that ranchers would not earn because wilderness designation would prevent implementing intensive grazing.

[2] Assumes each AUM provides $5.00 in net revenue. The numbers reflect income received after allotment reaches potential, generally 20 years from AMP implementation.

[3] Not all allotments would be impacted as some AMPs or parts of AMPs would probably be allowed. Pipeline allotment would not be significantly impacted because an AMP has already been implemented and all needed improvements have been built.

NI = No significant impact to allotment potential.

TABLE 4-11
POTENTIAL RANCH VALUE INCREASES NOT REALIZED
UNDER WILDERNESS DESIGNATION

Allotments*	Existing Allotment Values	Proposed Action	All Wilderness	Enhanced Wilderness	Limited Wilderness
Aguila	$ 634,125	$134,000	$ 134,000	$ 134,000	$ 134,000
Arrastra Mountain	132,750	50,500	50,500	50,500	50,500
Artillery Range	185,875	72,625	72,625	72,625	NI
Bagdad	137,000	34,000	34,000	34,000	34,000
Bateman Spring	33,500	11,875	11,875	11,875	NI
Black Mesa	40,000	13,750	13,750	13,750	13,750
Boriana "A"	309,750	NI	94,250	94,250	NI
Burro Creek	33,000	NI	5,000	NI	NI
Burro Creek Ranch	97,625	82,000	82,000	82,000	82,000
Francis Creek	856,625	NI	396,250	396,250	NI
Greenwood Community	35,500	16,625	16,625	16,625	NI
Greenwood Pk. Community	73,500	22,000	22,000	22,000	22,000
Loma Linda	200,250	NI	70,500	70,500	NI
Ohaco	184,500	NI	10,125	NI	NI
Santa Maria	292,125	38,875	38,875	38,875	38,875
Walnut Creek	329,625	NI	77,000	77,000	NI
Totals	3,575,750	476,250	1,129,375	718,000	375,125

* Pipeline allotment would not be significantly impacted because an AMP has already been implemented and all needed improvements have been built.

NI = No significant impact to allotment potential.

IMPACTS ON ECONOMIC CONDITIONS

Recreation Impacts. Designating 11 WSAs as wilderness would annually increase the ESA's recreation use by 6,200 visitor days and increase annual recreation spending by $93,000 (Table 4-12). Increased spending would benefit local businesses that serve recreationists and result in the hiring of three additional employees. The ESA's economy, however, would not be significantly affected.

All Wilderness

Range Impacts. Designating 18 WSAs as wilderness may prevent BLM from developing AMPs on 16 of the 37 allotments designated for intensive management in the EIS area. Forage on these allotments would thus not increase by 9,000 AUMs (Table 4-5), preventing annual net revenues from increasing by $45,000 and ranch values from increasing by $1,129,000. The loss of potential income from the forage increases that would not occur, however, would amount to less than 1 percent of the ESA livestock industry's total income.

Recreational Impacts. Designating 18 WSAs as wilderness would increase the ESA's annual recreation use by 3,000 visitor days and increase annual recreation spending in the ESA by $45,000. Increased spending would benefit local businesses that serve recreationists and result in the hiring of two additional employees. The ESA's economy, however, would not be significantly affected.

Enhanced Wilderness

Range Impacts. Designating 12 WSAs as wilderness may prevent BLM from developing AMPs on 13 of the 37 allotments designated for intensive management. Forage on these allotments would thus not increase by 5,700 AUMs (Table 4-5), preventing annual net revenues from increasing by $29,000 (Table 4-10) and ranch values from increasing by $718,000. The loss of potential income from wilderness designation would amount to less than 1 percent of the ESA livestock industry's total income.

Recreation Impacts. Designating 12 WSAs as wilderness would increase the ESA's annual recreation use by 6,100 visitor days and increase annual recreation spending in the ESA by $91,000. Increased spending would benefit local businesses who serve recreationists and result in the hiring of three additional employees. The ESA's economy, however, would not be significantly affected.

Limited Wilderness

Range Impacts. Designating four WSAs as wilderness may prevent BLM from developing AMPs on 7 of the 37 allotments designated for intensive management in the EIS area. Forage would thus not increase by 3,000 AUMs (Table 4-5), preventing annual net revenue from

TABLE 4-12
CHANGES IN RECREATION EXPENDITURES*

WSAs	Existing Recreation Expenditures	Proposed Action	All Wilderness	Enhanced Wilderness	Limited Wilderness
Wabayuma Peak	$ 46,500	+ 1,500	+ 3,000	+ 3,000	0
Planet	750	0	+ 750	0	0
Aubrey Peak	3,750	+ 3,000	+ 3,750	+ 3,000	0
Black Mesa	6,750	0	+ 750	0	0
Rawhide Mountains	33,750	+ 8,250	-19,500	+ 3,750	0
Arrastra Mountain	123,750	+ 2,250	+ 2,250	+ 2,250	+14,250
Lower Burro Creek	18,000	+43,500	+43,500	+43,500	+44,250
Upper Burro Creek	10,500	0	+ 7,500	0	0
Peoples Canyon	750	+ 2,250	+ 3,000	+ 2,250	0
Buckskin Mountains	12,750	0	- 2,250	0	0
Harcuvar Mountains	39,750	0	0	+ 2,250	0
Hassayampa River Canyon	13,500	0	+ 750	0	0
Harquahala Mountains	28,500	+21,750	+ 1,500	+21,750	+21,750
Big Horn Mountains	4,500	+ 2,250	+ 2,250	+ 2,250	+ 3,000
Hummingbird Springs	18,000	- 3,000	- 3,750	+ 1,500	0
Saddle Mountain	1,500	+ 3,000	+ 3,000	+ 3,000	0
Black Mountains/Ives Peak	1,500	0	0	+ 3,000	0
Tres Alamos	6,000	- 1,500	- 1,500	0	0
Totals	370,500	+93,000	+45,000	+91,500	+83,250

* Changes in spending by recreationists resulting from wilderness designation. Expenditure estimates are based on $15 per recreation visitor day.

BLM
Lower Colorado SEP
Marvin Weiss 1979

increasing by $15,000 and ranch values from increasing by $375,000. The loss of potential income from wilderness designation would amount to less than 1 percent of the ESA livestock industry's total income.

Recreation Impacts. Designating four WSAs as wilderness would increase the ESA's annual recreation use by 5,550 visitor days and increase annual recreation spending in the ESA by $83,000. Increased spending would benefit local businesses that serve recreationists and result in the hiring of three additional employees. The ESA's economy, however, would not be significantly affected.

No Wilderness

Range Impacts. Under *No Wilderness,* all proposed AMPs could be implemented, and forage could increase as projected. Net revenues and ranch values would increase.

Recreation Impacts. If none of the WSAs are designated as wilderness, recreation use would remain at 25,000 visitor days, and annual recreation spending would remain at $370,000. Recreation use, however, may change as a result of factors other than wilderness designation, such as population changes, changes in hunting opportunities, and changes in the cost of recreation.

Impacts on Social Elements and Attitudes

Implementing any of the proposed alternatives would not significantly affect population totals or population trends at the local, county, or regional levels. Moreover, public perceptions of wilderness at the county and regional levels would not be significantly affected because of the large size of the population (1980 county level – 4.5 million, 1980 regional level – 16.9 million), the large proportion of the public that is unconcerned or unaware of wilderness proposals or activities, and the county and regional population's lack of knowledge of BLM's proposed alternatives and the location of the WSAs.

This section's discussion thus concentrates on impacts of implementing the proposed alternatives on local public perceptions of wilderness. Map 3-2 and Table 4-13 show the location of the CCDs and the location of each WSA by proposed alternative.

PROPOSED ACTION

Only a small segment of the local population actively supports implementing the *Proposed Action.* Data gathered from residents of the affected CCDs reveal that few people know the locations of the WSAs. "Some of the old-timers probably know those areas, but a lot of people don't even know the names of mountains anymore," a Wickenburg resident observed. An Aguila resident, in response to an informal question of how he thought most people perceived wilderness, replied that "they should" know about Harquahala, Harcuvar, and "some of the others," but he wasn't sure if they did. A BLM placard requesting public comments on wilderness was posted in the Salome, Arizona Post Office. "That's been there a long time. I doubt if anybody around here bothered with it," a postal patron commented.

Local opposition to the *Proposed Action* is more common, having several bases. One of these is the conflict seen between wilderness areas and multiple use, particularly off-road vehicle use and hunter access. Another basis for opposition is the question of need. "People don't use those areas anyway. Why does BLM want to make them into wilderness?" A third basis for opposition regards the lack of perceived local benefits. A Wickenburg resident asked, "What do we get out of wilderness? Nothing. In fact, a lot lose because a few nature freaks want more land." Other bases of opposition include resentment of federal control, concern that some taxpayers are being prohibited from using public land (the handicapped and elderly who need motorized transportation), and the opinion that wilderness designation would adversely affect mining and livestock operations. A Lake Havasu City resident said, "I don't care what they say. Once BLM gets a wilderness area, you watch. They'll shut the gates."

Throughout the local area, however, a large number of people are apparently not familiar with BLM wilderness study activities or with the proposed alternatives. Most of the residents of Kingman South and Parker CCDs are strongly oriented toward areas and activities along the Colorado River. Tourism and water-based recreation are important elements in the local economy.

Retirees constitute a large segment of the adult population in the local CCDs. According to county and city officials, this group of people represents a significant factor in the economy and future of Wickenburg, Lake Havasu City, the Parker Strip, and smaller communities such as Salome and Wenden. Retirees, as a group, do not tend to be involved with wilderness issues, concerned over wilderness decisions, or familiar with the location of WSAs.

Construction, farming, and farm-related industry and employment are basic elements of the economy in the Buckeye CCD. The population of the region westward from Buckeye to Tonopah and Salome is dominated by construction employees involved with the Palo Verde nuclear plant and the Central Arizona Pro-

IMPACTS ON SOCIAL ELEMENTS AND ATTITUDES

TABLE 4-13
LOCATION OF WSA BY PROPOSED ALTERNATIVE

County CCD/WSA Location	Proposed Action	All Wilderness	Enhanced Wilderness	Limited Wilderness	No Wilderness
MOHAVE COUNTY					
Kingman South CCD					
Wabayuma Peak	X	X	X		X
Planet		X			X
Aubrey Peak	X	X			X
Black Mesa		X			X
Arrastra Mountain	X	X		X	X
Arrastra Mountain-Peoples Canyon Combined[1]	X		X		
Lower Burro Creek	X	X		X	X
YAVAPAI COUNTY					
Ashfork CCD					
Upper Burro Creek[2]		X			X
Congress CCD					
Peoples Canyon		X			X
Hassayampa River Canyon		X			X
Black Mountains/Ives Peak	X	X			X
Tres Alamos		X			X
YUMA COUNTY					
Parker CCD					
Rawhide Mountains	X	X	X		X
Buckskin Mountains		X			X
Harcuvar Mountains		X	X		X
MARICOPA COUNTY					
Wickenburg CCD					
Harquahala Mountains[3]	X	X	X	X	X
Buckeye CCD					
Big Horn Mountains	X	X		X	X
Hummingbird Springs	X	X	X		X
Saddle Mountain	X	X			X

[1] Kingman South and Prescott CCDs (Mohave and Yavapai Counties)
[2] Ashfork and Kingman South CCDs (Yavapai and Mohave Counties)
[3] Wickenburg and Parker CCDs (Maricopa and Yuma Counties)

ject. Characteristically, people associated with construction and farming are not concerned with wilderness issues.

Conclusion

A BLM decision to implement the *Proposed Action* would not greatly impact wilderness perceptions of the local population. Opponents of federal control over local land areas may increase, but this increase is not likely to adversely affect the local public wilderness perceptions.

ALL WILDERNESS

Media reports on the decision for this alternative could generate widespread public opposition. Negative perceptions toward wilderness and BLM would likely be assumed by those who, at present, have remained neutral: the retired, the farming groups, construction employees, Lake Havasu City and Parker Strip residents. In contrast, implementing this alternative would not significantly benefit public wilderness perceptions.

Conclusion

Implementing *All Wilderness* could have a significant adverse effect on public perceptions of wilderness.

ENHANCED WILDERNESS

Because the *Enhanced Wilderness* alternative involves a larger number of WSAs and more acreage than the *Proposed Action,* it would attract more local public opposition.

Conclusion

The implementation of *Enhanced Wilderness* would not significantly affect public wilderness perceptions.

LIMITED WILDERNESS

If implemented, *Limited Wilderness* would engender less local opposition than either the *Proposed Action* or *Enhanced Wilderness,* although local residents questioned the need for this alternative ("These are pretty nice places. But they're not easy to get to and probably not used much. Why make them wilderness areas?").

Conclusion

Limited Wilderness would not significantly impact local public wilderness perceptions.

NO WILDERNESS

Conclusion

No Wilderness would not significantly affect local public wilderness perceptions.

Mitigating Measures

WILDLIFE

To mitigate the impacts of nondesignation, BLM could designate areas of critical environmental concern (ACECs) and manage them for wildlife habitat or threatened, endangered, or sensitive protection as proposed in the Hualapai-Aquarius and Lower Gila North MFPs. Nondesignation of Upper Burro Creek, Lower Burro Creek, Arrastra Mountains, Aubrey Peak, Wabayuma Peak, Peoples Canyon, Rawhide Mountain, and Harquahala Mountains could be followed by ACECs. The following table shows the size of proposed ACECs within WSAs.

WSA	ACEC	Acres
Upper Burro Creek	Burro Creek	11,500
Lower Burro Creek	Burro Creek	16,600
Arrastra Mountain	Big Sandy/Santa Maria	30,400
Aubrey Peak	Aubrey Peak	15,200
Wabayuma Peak	Hualapai Mountains	1,800
Peoples Canyon	Bill Williams/Santa Maria	2,800
Rawhide Mountains	Bill Williams/Santa Maria	1,200
Harquahala Mountains	Harquahala Mountains	5,000

Wildlife habitat and threatened, endangered, and sensitive species could be protected in a manner similar to that described for the WSAs in the wildlife section of Chapter 4.

Unavoidable Adverse Impacts

BLM has the management capacity to reduce the potential magnitude of impacts revealed by the preceding analysis. Potential adverse impacts could be avoided by careful siting, design, and monitoring of proposed activities.

If any of the WSAs are found to be nonsuitable for wilderness designation, the risk of impairing their wilderness values will increase. Mining, motorized vehicle use, and energy and utility development will probably increase, potentially degrading wilderness values over the long term.

Wilderness designation assures the protection of wilderness values. Though such designation is the most effective means for protecting wilderness values, sensitive natural resources can be protected by existing laws and regulations.

Recreational opportunities and experiences would change under all alternatives. Restricting vehicle access could increase opportunities for solitude and primitive and unconfined recreation, but it would adversely impact motorized vehicle use.

Subject to valid existing rights, all lands designated as wilderness will be withdrawn from all forms of appropriation under the mining laws and from disposition under all laws pertaining to mineral leasing, unless Congress specifically provides otherwise.

Irreversible and Irretrievable Commitments of Resources

All alternatives involve, to varying degrees, irreversible and irretrievable commitments of certain resources.

The allocation of lands to such consumptive uses as mining, motorized vehicle use, and utility and energy development would result in irreversible and irretrievable losses of wilderness sources over the long term. On the other hand, wilderness designation would preclude future commodity development resources but not irreversibly or irretrievably. Should a vital national interest be jeopardized by wilderness status, Congress could rescind its action and allow the needed resources to be exploited.

Relationship Between Short-Term Uses of Man's Environment and the Maintenance and Enhancement of Long-Term Productivity

The 18 WSAs will be managed under the Interim Management Policy until Congress either releases the areas or designates them as wilderness. The period of this management phase cannot be identified, but the short term would involve 2 or more years after the final statement and the wilderness study report are submitted to the President through the Secretary of the Interior. These WSAs will be used as at the present with the nonimpairment criteria controlling methods for maintenance and construction for mining and livestock grazing.

During the short term, man's environment will not change nor will the uses be different from the present. Long-term productivity will be dependent upon the recommendations made by the President and the congressional decisions as to the areas designated wilderness and the areas returned to multiple-use management under BLM's planning system. The areas designated will be managed to preserve the wilderness qualities of the areas for future generations.

APPENDICES

APPENDIX 1

INTERIM MANAGEMENT POLICY AND GUIDELINES FOR LANDS UNDER WILDERNESS REVIEW

INTERIM MANAGEMENT POLICY AND GUIDELINES FOR LANDS UNDER WILDERNESS REVIEW

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U.S. Department of the Interior. *As the Nation's principal conservation agency, the Department of the Interior has responsibility for most of our nationally owned public lands and natural resources. This includes fostering the wisest use of our land and water resources, protecting our fish and wildlife, preserving the environmental and cultural values of our national parks and historical places, and providing for the enjoyment of life through outdoor recreation. The Department assesses our energy and mineral resources and works to assure that their development is in the best interests of all our people. The Department also has a major responsibility for American Indian reservation communities and for people who live in Island Territories under U.S. administration.*

Introduction

The Federal Land Policy and Management Act of 1976 (FLPMA) requires the Secretary of the Interior to review areas of the public lands determined to have wilderness characteristics, and to report to the President his recommendations as to the suitability or nonsuitability of each such area for preservation as wilderness. The Secretary is required to report his recommendations to the President by October 21, 1991, and the President is required to report his recommendations to Congress by October 21, 1993. During the period of this review and until Congress acts on the President's recommendations, the Secretary is required to manage such lands so as not to impair their suitability for preservation as wilderness, subject to certain exceptions and conditions.

This document describes the policy and guidelines under which the Bureau of Land Management (BLM) will manage the lands under wilderness review. This policy is referred to as the "interim" management policy because it applies to specific areas of the public lands for a limited amount of time, depending upon various stages and schedules of the review process. The purpose of the policy and guidelines is to guide BLM staff in the specific decisions that arise every day in the management of lands under wilderness review.

There are two categories of public lands to which this policy applies: (1) lands for which the wilderness inventory process has not yet been completed, and (2) wilderness study areas (WSA's). These two categories together are referred to as "lands under wilderness review."

The first category of lands to which the Interim Management Policy (IMP) applies are lands subject to wilderness review but for which the BLM wilderness inventory process has not yet been completed. The inventory is a preliminary phase that leads to identification of wilderness study areas. Because completion of the wilderness inventory process may result in identifying lands under inventory as wilderness study areas, these lands must be managed under the IMP until a final decision in the inventory process resolves their status. The wilderness inventory in the contiguous western States is scheduled for completion in 1980.

The second category of lands, wilderness study areas, consists of lands which the BLM has determined have wilderness characteristics, as defined in the Wilderness Act of 1964. This determination is made through the wilderness inventory process described in the BLM's *Wilderness Inventory Handbook*. These wilderness study areas are being studied by the BLM to determine whether they are suitable or nonsuitable for preservation as wilderness. Based on this study, the Secretary of the Interior will submit his recommendations on each wilderness study area to the President, and the President will send his recommendations to Congress. Only Congress can designate an area as wilderness and, therefore, as a unit of the National Wilderness Preservation System.

The Interim Management Policy is temporary and applies only during the time an area is under wilderness review and until Congress acts on wilderness study areas. After Congress acts on the President's recommendations for each wilderness

study area, a different policy will apply to the area, depending on whether or not Congress designates the area as wilderness. Areas designated as wilderness will be managed under a basic policy for permanent wilderness management, which will soon be drafted by the BLM and issued for public review. This policy will be amended as necessary to reflect any requirements incorporated into the law designating a wilderness area on BLM lands. Areas Congress determines not to designate as wilderness will no longer be subject to the Interim Management Policy, and will be managed under general BLM management policies.

The Interim Management Policy (IMP) obviously is not the only policy that governs the management of lands under wilderness review. The BLM has many other laws and policies to carry out which may affect whether and how an activity may take place on lands under wilderness review, even when that activity is permissible under the IMP.

Mandates from Congress

The BLM wilderness review program stems from section 603 of the Federal Land Policy and Management Act of 1976 (FLPMA). In FLPMA, Congress gave BLM its first unified, comprehensive mandate on how the public lands should be managed. The law establishes a policy of generally retaining the public lands in Federal ownership, and it directs the BLM to manage them under principles of multiple use and sustained yield. The BLM is to prepare an inventory of the public lands and their resources, including identification of areas having wilderness characteristics. Management decisions for the public lands are to be made through a land-use planning process that considers all potential uses of each land area. All public lands are to be managed so as to prevent unnecessary or undue degradation of the lands.

Under FLPMA, wilderness preservation is part of BLM's multiple-use mandate, and wilderness values are recognized as part of the spectrum of resource values and uses to be considered in the inventory and in the land-use planning process. Section 603 of FLPMA specifically directs the BLM, for the first time, to carry out a wilderness review of the public lands. (The complete text of section 603 appears in Appendix B of this document. The BLM's wilderness review program implementing section 603 is summarized in Appendix E.)

Section 603(c) of FLPMA tells the BLM how to manage the lands under wilderness review, in these words:

> During the period of review of such areas and until Congress has determined otherwise, the Secretary shall continue to manage such lands according to his authority under this Act and other applicable law in a manner so as *not to impair the suitability of such areas for preservation as wilderness*... (emphasis added)

We will refer to this as the "nonimpairment" mandate.[1]

Importantly, section 603(c) provides a special exception from the nonimpairment mandate for existing mining, grazing, and mineral leasing uses — what we will call "grandfathered" uses — in these words:

> ...subject, however, to the continuation of existing mining and grazing uses and mineral leasing in the manner and degree in which the same was being conducted on the date of approval of this Act...

As is obvious from this language, the continuation of these existing uses is not unrestricted. They are restricted to the same "manner and degree" as on the date FLPMA was approved (October 21, 1976).

The Secretary is also directed by section 603(c) to "take any action required to prevent unnecessary or undue degradation of the lands and their resources or to afford environmental protection." This applies to these grandfathered uses and to all other activities. A similar provision in Section 302(b) concerning *all* public lands, even those not under wilderness review, directs the Secretary to "prevent unnecessary or undue degradation of the lands." The practical effect of these two provisions is the same. Therefore, throughout this document the shorter form used in section 302(b) will be cited.

Another provision in section 603(c) directs:

> Unless previously withdrawn from appropriation under the mining laws, such lands shall continue to be subject to such appropriation during the period of review unless withdrawn by the Secretary under the procedures of section 204 of this Act for reasons other than preservation of their wilderness character.

(Section 204 spells out the conditions under which the Secretary may make a withdrawal, and the procedures for doing so.)

The BLM's responsibilities under section 603(c) are also affected by section 701(h) of FLPMA, which states:

> All actions by the Secretary concerned under this Act shall be subject to valid existing rights.

These mandates in FLPMA establish as a matter of law that, while some development activities are permissible on lands under wilderness review, they are subject to important limitations and must be carefully regulated. All activities except those specifically exempt must be regulated to prevent impairment of wilderness suitability. If an activity not specifically exempt cannot meet this condition, the activity cannot be permitted on lands under wilderness review.

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[1] The wilderness review required by section 603 focuses on roadless areas of 5,000 acres or more and on roadless islands. The BLM as a matter of policy has used its general management authority under sections 302 and 202 of FLPMA to include in the wilderness review some roadless areas smaller than 5,000 acres. (The criteria for such areas are spelled out on page 12 of the *Wilderness Inventory Handbook*.) The management mandate in section 603(c) does not apply to roadless areas smaller than 5,000 acres. However, as a matter of policy the BLM will use its management authority under section 302 of FLPMA to apply a modified form of interim management to these areas, as is explained in Chapter I. A. 5.

There are five different practical effects of these provisions with respect to "interim management" of lands under wilderness review. First, the general standard for interim management is that lands under wilderness review must be managed so as not to impair their suitability for preservation as wilderness. We will refer to this as the "nonimpairment" standard. This applies to all uses and activities except those specifically exempted from this standard by FLPMA (such as grandfathered uses).

Second, those grazing, mining, and mineral leasing uses that existed on October 21, 1976 (the date FLPMA was approved), may continue in the same manner and degree as on that date, even if this would impair wilderness suitability.

Third, lands under wilderness review may not be closed to appropriation under the mining laws in order to preserve their wilderness character.

Fourth, valid existing rights must be recognized.

Fifth, the lands must be managed to prevent unnecessary or undue degradation.

Meaning of the Congressional Mandate

Determining what can take place on lands under wilderness review depends partly on what the specific language of each of these provisions means, partly on how each provision interacts with other provisions of FLPMA and with other laws, and partly on what authority the Department has under FLPMA and other laws to regulate uses of the public lands.

Nonimpairment

To determine what is permissible under the general "nonimpairment" standard, we must examine what Congress meant by *impairment* of an area's *suitability for preservation* as *wilderness*.

The term "suitability ... for preservation as wilderness" originated in the Wilderness Act of 1964, which directs the Secretary of Agriculture to "review, as to its *suitability* or nonsuitability *for preservation as wilderness*" each of the national forest areas classified as "primitive." Likewise, the Wilderness Act directs the Secretary of the Interior to review certain roadless areas and islands in the National Park System and in the national wildlife refuges and game ranges and "report to the President his recommendation as to the *suitability* or nonsuitability of each such area or island *for preservation* as *wilderness*." The term is similarly used in section 603(a) of FLPMA, which directs the Secretary of the interior to review certain roadless areas and islands and to "report to the President his recommendation as to the *suitability* or nonsuitability of each such area or island *for preservation as wilderness*". (Emphasis added.)

In the Wilderness Act and FLPMA, the term "suitability" implies two things. First, it implies that, at the minimum, the area satisfies the definition of wilderness in section 2(c) of the Wilderness Act:

> A wilderness, in contrast with those areas where man and his own works dominate the landscape, is hereby recognized as an area where the earth and its community of life are untrammeled by man, where man himself is a visitor who does not remain. An area of wilderness is further defined to mean in this Act an area of undeveloped Federal land retaining its primeval character and influence, without permanent improvements or human habitation, which is protected and managed so as to preserve its natural conditions and which (1) generally appears to have been affected primarily by the forces of nature, with the imprint of man's work substantially unnoticeable; (2) has outstanding opportunities for solitude or a primitive and unconfined type of recreation; (3) has at least five thousand acres of land or is of sufficient size as to make practicable its preservation and use in an unimpaired condition; and (4) may also contain ecological, geological, or other features of scientific, educational, scenic, or historical value.

The Department therefore has a responsibility under the nonimpairment standard to ensure that each wilderness study area satisfies this definition at the time Congress makes a decision on the area. As a practical matter, this means that it must meet this definition by the time the Secretary reports his recommendation to the President, because the President might immediately send his recommendation to Congress, and Congress might act immediately.

The word "suitability" takes on a second meaning in the context of recommendations made by the Secretary to the President. Congress made it clear in section 603 of FLPMA that an area with all necessary wilderness characteristics defined in section 2(c) of the Wilderness Act might be found by the Secretary to be either "suitable" or "nonsuitable" for preservation as wilderness. Since each area *must* have been determined to have wilderness characteristics in order to qualify for wilderness study under the mandate of FLPMA, it seems clear that the principal factor to be used by the Secretary in arriving at a suitable/nonsuitable recommendation is the value of an area as wilderness compared to its value for other uses, such as commercial forest management or mineral development. The Department therefore has a responsibility to ensure that an area's existing wilderness values are not degraded so far, compared with the area's values for other purposes, as to significantly constrain the Secretary's recommendation with respect to the area's suitability or nonsuitability for preservation as wilderness.

Management under the nonimpairment standard, to which there are two exceptions described later, has these goals: (1) to ensure that any area that now satisfies the wilderness definition in section 2(c) of the Wilderness Act will satisfy that definition when the Secretary sends his wilderness recommendation to the President and thereafter until Congress acts, and (2) to ensure that, by the time the Secretary sends his wilderness recommendation to the President, the area's wilderness values have not been degraded so far, compared with the area's values for other purposes, as to significantly constrain the Secretary's recommendation with respect to the area's suitability or nonsuitability for preservation as wilderness.

Anything that would conflict with these goals would constitute impairment of the area's suitability for preservation as wilderness.

Management to the nonimpairment standard does not mean that the lands will be managed as though they had already been designated as wilderness. For example, some uses that could not take place in a designated wilderness area may be permitted under the Interim Management Policy because they are only temporary uses that leave no physical or aesthetic impacts on the land and that can easily be terminated if Congress decides to designate the area as wilderness.

Some temporary uses can be permitted even though they cause physical or aesthetic impacts, because those impacts are temporary and will be reclaimed promptly. It is generally felt to be in the public interest, for instance, for wilderness study areas to be explored, within the nonimpairment standard, so as to learn as much as possible about all the resource values that are present.

On the other hand, some uses that were explicitly permitted by the Wilderness Act of 1964 in wilderness areas of the national forests (such as mining and mineral leasing) must be restricted under the Interim Management Policy because their impacts clearly could disqualify the area from satisfying the wilderness definition, and thus would impair wilderness suitability. During the wilderness review it is the later and more explicit FLPMA, and not the Wilderness Act, that dictates what is permissible.

The final decision on permanent wilderness designation for each wilderness study area belongs to Congress. Management under the nonimpairment standard protects Congress' right to make the designation decision by preventing actions that would pre-empt that decision.

Grandfathered Uses

To determine what uses are protected under the "grandfather" provision, we must examine what Congress meant by "continuation of existing mining and grazing uses and mineral leasing in the manner and degree in which the same was being conducted on the date of approval of this Act."

To be an "existing" use, the use clearly must have been taking place on the lands as of the date of FLPMA (October 21, 1976). An existing use might have been temporarily inactive for reasons such as bad weather or a short-term depression in market conditions, but clearly a use that had last occurred 5 or 10 years earlier when there was no demonstrable intention of resuming immediately would not qualify, except where the use involved a long "start-up" time.

An existing use would have created actual physical impacts on the land before October 21, 1976. However, the impacts of an existing grazing use would not necessarily be noticeable on that date, because grazing, conducted under good range management practices, leaves no noticeable impacts, except those of range improvement installations.

Continuation in the same "manner and degree" implies different things for the different uses mentioned in the grandfather clause. Mineral uses generally operate by a logical progression that begins with exploration and proceeds through development of a given deposit by geographic extension until the deposit has been exhausted. By contrast, grazing use is done by grazing a given land area on a continuing basis, because range forage is a renewable resource. No change in the area of use is inherent in grazing.

In both cases, the benchmark for the "manner and degree" of an existing use is the physical and aesthetic impact that use was having on the area on October 21, 1976, because it is that impact that could affect the wilderness review.

For mineral uses, continuation in the same manner and degree implies that the use may proceed by a *logical pace and progression* — either a geographic extension or a change in the type of activity, so long as the impacts of the extension or of the new activity are not of a significantly different kind than the impacts existing on October 21, 1976. This may take place even if the activity impairs wilderness suitability.

For grazing uses, continuation in the same manner and degree implies that grazing may continue on the lands authorized as of October 21, 1976, so long as the impacts of that use do not increase.

Appropriation Under the Mining Laws

As it appears in section 603(c), the mandate that lands under wilderness review continue to be subject to appropriation under the mining laws is a prohibition against withdrawal of lands under wilderness review from appropriation under the mining laws for the purpose of preserving the land's wilderness character. It is not an exception to the nonimpairment mandate. Although they may still take place, activities entailed in appropriation under the mining laws — including the location of new claims, assessment work, exploration activities on claims, and the issuance of patents — must be regulated so as not to impair wilderness suitability. (Of course, mining activities covered by the grandfather provision and certain valid existing rights are exceptions to the nonimpairment mandate.)

If a mining claimant, using methods that do not impair wilderness suitability, makes a valid discovery and can show proof of that discovery to the BLM, the discovery represents a right to patent the claim. If a patent is issued, title to the land is transferred to the claimant. At that point the claim ceases to be public land and is therefore no longer subject to wilderness review or to the Interim Management Policy.

Valid Existing Rights

The "valid existing rights" provision of FLPMA (Section 701(h)) clearly applies only to valid rights outstanding ("existing") on October 21, 1976. Those valid rights will be recognized, but they are not necessarily exempt from the nonimpairment mandate.

In cases where the Department has authority to regulate a valid existing right, the nonimpairment mandate of section 603 requires the Department to regulate it to avoid impairing wilderness suitability. This is the case with the majority of mineral leases issued before October 21, 1976. The right granted by those leases is not an absolute, uncontrolled right. It is a right conditioned on compliance by the lessee with the Department's rules, orders, and regulations in effect either on or after the date of the lease. Therefore, lessees will be required to comply with the nonimpairment mandate of FLPMA, unless the activities on the leases qualify as grandfathered uses. If a lessee proposes to conduct activities that cannot meet the nonimpairment standard and those proposed activities are denied for this reason, the lessee has the right to request a suspension of operation. The policy on lease suspensions is explained more fully in Chapter III. J. 1(d).

In cases where the Department has no such authority to regulate the valid existing rights to the nonimpairment standard, those rights may be exercised, even if this will impair wilderness suitability. This is the case with mining claims on which a valid discovery had been made before October 21, 1976. If the claimant can show evidence to the BLM that a discovery was made before that date, the operation will not be regulated to the nonimpairment standard, regardless of the kind of impacts from activities on the claim on October 21, 1976.

The valid existing rights and grandfather provisions create a significant overlap, because some mineral uses qualify under both provisions:

Mining Claims: Mining claims located before October 21, 1976, represent a valid existing right if a valid discovery had been made on the claim before October 21, 1976. Of course, if any such claims were actively being worked as of October 21, 1976, they would also qualify as grandfathered uses. But they enjoy a more liberal development standard under the valid existing rights provision, because in this case they would be able to proceed even if the activities exceeded the manner and degree that existed on October 21, 1976.

Mineral Leases: Mineral leases issued before October 21, 1976, represent a valid existing right. If they were actively being worked as of October 21, 1976, and if physical impacts had been created on the ground, these leases would also qualify as grandfathered uses. In most if not all cases (depending upon the legal rights conveyed by the specific lease in question), the grandfather provision provides the more liberal development standard, allowing continuation in the same manner and degree as on October 21, 1976; otherwise, the nonimpairment standard would apply. If a lessee proposed to conduct activities that cannot meet the nonimpairment standard and those proposed activities were denied for this reason, the lessee would have the right to request a suspension of operation. The policy on lease suspension is explained more fully in Chapter III. J. 1(d).

Chapter I. Management Policy for Lands Under Wilderness Review

A. General Policy

1. The Department of the Interior's management policy is, except in the cases stated below, to continue resource uses on lands under wilderness review in a manner that maintains the areas' suitability for preservation as wilderness. This Interim Management Policy will be in effect until one of the following occurs:

a. In some cases the BLM wilderness inventory process will result in a determination that a wilderness inventory unit does not meet the Wilderness Act's definition of wilderness. In such cases, as soon as the BLM State Director has announced a final decision and any relevant administrative review process has been exhausted, the Interim Management Policy will no longer apply.

b. If Congress designates a wilderness study area as wilderness, the BLM will manage the area for preservation of its wilderness character. The Federal Land Policy and Management Act (FLPMA) requires that designated wilderness areas be managed under provisions of the Wilderness Act that apply to national forest wilderness. BLM will prepare a management policy to implement this mandate for any BLM areas that Congress may decide to designate as wilderness.

c. If Congress determines that a wilderness study area will not be designated as wilderness, the Interim Management Policy will no longer apply.

2. The law provides for, and the Department's policy is to allow, continuation of grazing, mining, and mineral leasing uses on lands under wilderness review in the manner and degree in which these uses were being done on October 21, 1976, so long as they do not cause unnecessary or undue degradation of the lands. These are referred to as the "grandfathered" uses.

3. The Department's policy is to allow appropriation under the mining laws; i.e., these areas, in accordance with the congressional mandate, will not be withdrawn from the operation of the mining laws for the purpose of preserving their wilderness character. Activities involved in appropriation under the mining laws — including location of new claims and the assessment work necessary to hold claims — will be allowed so long as these activities are carried out in a manner that does not impair the area's wilderness suitability.

4. The Department's policy is to recognize valid existing rights that were outstanding on October 21, 1976. A further explanation of the policy on valid existing rights appears in section B. 7, below.

5. If a wilderness study area or inventory unit (except islands) is smaller than 5,000 acres, existing and new mining activities under the 1872 Mining Law will be regulated in that area only to prevent unnecessary or undue degradation of the lands — not to prevent impairment of wilderness suitability. All other activities will be managed under the Interim Management Policy. The *Wilderness Inventory Handbook* provides for identification of wilderness study areas under 5,000 acres under certain conditions specified on page 12 of the handbook. Although section 603 of FLPMA does not require these areas to be given interim management, the Department has the authority under section 302 of FLPMA to manage these lands similarly. The Department's policy is to manage them under the Interim Management Policy, except with respect to mining claims located under the 1872 Mining Law. The authority to regulate activities to the nonimpairment standard with respect to the mining laws only applies to the areas that meet the criteria of section 603 — i.e., either islands or roadless areas of 5,000 acres or more. Section 302 provides the authority to regulate mining on all public lands to prevent unnecessary or undue degradation.

B. Specific Policy Guidance

This section tells how the Bureau of Land Management will apply the general policies set forth in section A, above.

1. **Lands under Wilderness Review.** The Bureau of Land Management is conducting a wilderness inventory under procedures described in the *Wilderness Inventory Handbook*, issued on September 27, 1978. The inventory will sort lands into two categories: (a) wilderness study areas, to which the Interim Management Policy will apply, and (b) lands that are determined not to have wilderness characteristics and therefore will not be subject to the Interim Management Policy. Lands that are being reviewed in the wilderness inventory and have not yet been dropped from the inventory by a final decision of the BLM will be subject to the Interim Management Policy because they may be identified as wilderness study areas by that final decision.

2. **Nonimpairment.** Any activity that BLM has determined does not impair the land's suitability for preservation as wilderness may be permitted on lands under wilderness review. Before approving proposed activities generally identified as nonimpairing in this document, BLM will first ensure that they conform to the existing management framework plan, if one has been prepared for the affected lands (see 43 CFR 1601.8), and will then review the proposal through an environmental assessment to determine whether, in a specific case, they will be nonimpairing and to ensure that approval of such activities will not create a situation in which the cumulative effect of existing uses and the new proposed uses would impair wilderness suitability.

Activities that protect or enhance the land's wilderness values or that provide the minimum necessary facilities for public enjoyment of the wilderness values are considered nonimpairing. For example, trails and sanitary facilities could be built for primitive recreational use.

All other activities will be considered nonimpairing if the BLM determines that they meet each of the following criteria, referred to hereafter as the "nonimpairment criteria":

a. It is temporary. This means that the use or activity may continue until the time when it must be terminated in order to meet the reclamation requirement of paragraphs (b) and (c) below. A temporary use that creates no new surface disturbance may continue unless Congress designates the area as wilderness, so long as it can easily and immediately be terminated at that time, if necessary to management of the area as wilderness.

b. Any temporary impacts caused by the activity must, at a minimum, be capable of being reclaimed to a condition of being substantially unnoticeable in the wilderness study area (or inventory unit) as a whole by the time the Secretary of the Interior is scheduled to send his recommendations on that area to the President, and the operator will be required to reclaim the impacts to that standard by that date. If the wilderness study is postponed, the reclamation deadline will be extended accordingly. If the wilderness study is accelerated, the reclamation deadline will not be changed. A full schedule of wilderness studies will be developed by the Department upon completion of the intensive wilderness inventory. In the meantime, in areas not yet scheduled for wilderness study, the reclamation will be scheduled for completion within 4 years after approval of the activity. (Obviously, if and when the Interim Management Policy ceases to apply to an inventory unit dropped from wilderness review following a final wilderness inventory decision of the BLM State Director, the reclamation deadline previously specified will cease to apply.) The Secretary's schedule for transmitting his recommendations to the President will not be changed as a result of any unexpected inability to complete the reclamation by the specified date, and such inability will not constrain the Secretary's recommendation with respect to the area's suitability or nonsuitability for preservation as wilderness.

The reclamation will, to the extent practicable, be done while the activity is in progress. Reclamation will include the complete recontouring of all cuts and fills to blend with the natural topography, the replacement of topsoil, and the restoration of plant cover at least to the point where natural succession is occurring. Plant cover will be restored by means of reseeding or replanting, using species previously occurring in the area. If necessary, irrigation will be required. The reclamation schedule will be based on conservative assumptions with regard to growing conditions, so as to ensure that the reclamation will be complete, and the impacts will be substantially unnoticeable in the area as a whole, by the time the Secretary is scheduled to send his recommendations to the President. ("Substantially unnoticeable" is defined in Appendix F.)

c. When the activity is terminated, and after any needed reclamation is complete, the area's wilderness values must not have been degraded so far, compared with the area's values for other purposes, as to significantly constrain the Secretary's recommendation with respect to the area's suitability or nonsuitability for preservation as wilderness. The wilderness values to be considered are those mentioned in section 2(c) of the Wilderness Act, including naturalness, outstanding opportunities for solitude or for primitive and unconfined recreation, and ecological, geological or other features of scientific, educational, scenic, or historical value.

Any temporary impacts authorized by the BLM under these criteria will be ignored during the wilderness study; the area will be considered in its expected condition at the time reclamation is complete, as required by paragraphs (b) and (c) above.

3. **Supporting Activities.** Some activities that in themselves are nonimpairing may require supporting facilities or activities that could impair wilderness suitability. (For example: a boat launching ramp and associated parking area as supporting facilities for boating, or the cross-country use of motor vehicles to retrieve sailplanes or hang gliders.) When this is the case, the supporting activity will be limited as necessary to meet the nonimpairment criteria (see section 2, above). If the supporting activity cannot be done in a nonimpairing manner, then the principal activity will not be approved.

4. **Cumulative Impacts.** It is recognized that many minor impacts of nonimpairing activities could accumulate to a point at which the total impact would impair wilderness suitability either by creating impacts that overall are *noticeable* (i.e., are not substantially unnoticeable) or by degrading the area's wilderness values so far, compared with the area's values for other purposes, as to significantly constrain the Secretary's recommendation with respect to the area's suitability or nonsuitability for preservation as wilderness.

To prevent such cumulative impacts from impairing wilderness suitability, the BLM will monitor the cumulative impacts of ongoing activities. If those impacts are growing so great that the area's wilderness suitability could be impaired, the BLM will take steps to control that impact by adjusting the conditions of use (such as time, place, and quantity), by prohibiting the expansion of the activity, or, if necessary, by prohibiting the activity altogether on the affected lands. The BLM will also consider cumulative effects in making decisions on new proposals to conduct what individually would be nonimpairing activities; if the proposed activity will create an unacceptable additional increment of impact, it will not be approved.

5. **Existing Facilities.** Some lands under wilderness review may contain minor man-made facilities that were found in the wilderness inventory process to be substantially unnoticeable in the area. For example, these may include primitive vehicle routes ("ways") and range improvements such as fences and spring developments. There is nothing in this Interim Management Policy that requires such facilities to be removed or shut down. On the contrary, they may remain, and they may be used as before, so long as this does not cause new impacts that would impair the area's wilderness suitability. (Grandfathered uses are, of course, exempt from the nonimpairment standard.)

6. **"Grandfathered" Uses.**

a. **General.** Section 603(c) of FLPMA provides a special exception to the nonimpairment standard. Grazing, mining, and mineral leasing uses that existed on the date of approval of FLPMA (October 21, 1976) may continue in lands under wilderness review in the same manner and degree as on that date, even if this impairs wilderness suitability. These are the "grandfathered" uses, protected by the "grandfather" clause of section 603. These uses must be regulated to ensure that they do not cause unnecessary or undue degradation of the lands.

Although activities on mining claims on which a valid mineral discovery was made prior to October 21, 1976, may qualify as grandfathered uses, these claims qualify for a more liberal development standard under the policy for valid existing rights (see section 7, below).

b. **Criteria.** A grandfathered use is a mineral or grazing use that was taking place on the land as of the date of approval of FLPMA (October 21, 1976). A grandfathered mineral use must have created *actual physical impacts* before that date.

In some circumstances, a grazing or mineral use may have been temporarily inactive on October 21, 1976, for reasons such as bad weather, natural disaster, a labor strike, or a short-term depression in the market for the product, and the operator fully intended to resume immediately upon termination of the temporary source of inactivity. In such cases, a rule of reason will be followed, but "temporarily inactive" will normally mean no more than 12 months prior to October 21, 1976. There may be unusual circumstances causing more than 12 months of temporary inactivity; these will be considered case by case, but shutdowns for market reasons longer than 12 months will not qualify. In the case of pre-FLPMA exploration activity creating actual physical impacts, such as seismic operations for oil and gas or drilling for hardrock minerals, normal industry schedules or "start-up" times will be taken into account in determining the permissible period of inactivity. Diligent pursuit and logical progression of development of the lease or mining claim must be demonstrated before these circumstances will be considered.

If a grandfathered use is acquired by a different owner, the new owner may continue the grandfathered use. But a grandfathered use is not an abstract right or privilege that can be uprooted from one land area and applied to a completely different land area; it is based on the place where it was being conducted as of October 21, 1976.

c. **Manner and Degree for Mineral Uses.** Continuation of a grandfathered use is limited to the same "manner and degree" as on October 21, 1976. The manner and degree of a mineral use refers to the kind of physical and aesthetic impacts the grandfathered use caused as of October 21, 1976. Continuation of a grandfathered mineral use in the same manner and degree may include a logical progression of activity — a geographic extension of the existing activity, or a change in the type of activity — if these are done at a logical pace and if the new impacts are not of a significantly different kind than the impacts existing on October 21, 1976.

This means that the *quantity* of on-the-ground impacts may be increased by the logical pace and progression of a grandfathered use, but that the new impacts may not be of a significantly different *kind* than the impacts involved with the pre-FLPMA activity. In determining whether the kind of impact is significantly different, consideration should be given to degradation of the area's wilderness characteristics (see the definition in Appendix C), including changes in natural contours and visual impacts.

For instance, if oil and gas exploration had been taking place by deep drilling, and one well had been drilled before October 21, 1976, additional wells could be drilled following a logical geographic extension at a logical pace of exploration, so long as the impacts were not of a significantly different kind than those of the first well. If those wells could then go to production without causing new impacts of a significantly different kind, that too could be permitted. For instance, this might occur if collecting pipelines, power lines, tank batteries and pumpjack were installed on already-disturbed sites and routes. It is the kind of impact, rather than the quantity of impact or the stage of development, that will be controlling in determining the manner and degree.

A grandfathered mineral use outside the boundary of an area under wilderness review may continue into the area as long as the activity follows the logical pace and progression of development and the impacts are not of a significantly different kind.

It is the use, rather than the claim or lease, that is grandfathered. A grandfathered mineral use may continue in the same manner and degree onto adjacent leases or claims held by the same person. Mineral leases unitized prior to October 21, 1976, are grandfathered as a unit.

d. **Manner and Degree for Grazing Uses.** The manner and degree of a grazing use refers to the nature of physical and aesthetic impacts the use caused as of October 21, 1976, including the condition of the range and the range improvements installed or under construction at that time. Continuation of a grazing use in the same manner and degree does not include any logical adjacent geographic continuation, as is provided for grandfathered mineral uses. This is because of the difference in the way grazing and mineral uses are carried out. Mineral uses inherently require a geographic extension to cover the entire mineral deposit. Grazing uses, on the other hand, do not inherently require a geographic extension. Range forage is a renewable resource; therefore grazing utilizes a specified area on a continuing basis.

Continuation in the same manner and degree does not automatically include, nor does it automatically exclude, installation of new range improvements. In cases where a permit issued by the BLM before October 21, 1976, provided for the operator to install a series of improvements and part of that series had already been installed before October 21, 1976, that operator may complete the series after that date. Otherwise, the question as to what range improvements may be installed on lands under wilderness review is more meaningfully dealt with under the nonimpairment concept. Certain new range improvements may be installed under this concept, and existing improvements may be used and maintained, as is explained in the guidelines in Chapter III. H.

7. **Valid Existing Rights.** The valid existing rights of mining claimants and mineral lessees as of October 21, 1976, will be recognized. If the claimant or lessee transfers his claim or lease to another person, the same valid existing right will be recognized in the new holder. But a valid existing right is tied to a particular claim or lease, and cannot be transferred to a different claim or lease.

a. **Mining Claims.** Mining claimants are recognized as having a valid existing right if a valid discovery had been made on the claim before October 21, 1976. Activities for the use and development of such claims will be exempt from the nonimpairment policy and will be regulated only to prevent unnecessary or undue degradation of the lands. Before beginning operations whose impacts would impair wilderness suitability, the claimant must show evidence of his discovery to the BLM.

However, there is a narrow exception. If on-the-ground activities that would impair wilderness suitability are proposed on a pre-FLPMA claim with valid existing rights within a wilderness study area that the BLM Director has recommended to the Secretary as suitable for designation as wilderness, the proposed impairing activity may be temporarily disapproved by the Director. This is a narrow exception for extraordinary circumstances when the Secretary and the President may be expected to recommend the area as suitable for designation as wilderness and Congress may be expected to act in a short period of time. Such a disapproval would be for one year, subject to renewal, but not to exceed a total of two years. In such cases, the existing right remains, but its enjoyment may be postponed.

b. **Leases.** Valid existing rights for mineral leases issued prior to October 21, 1976, are dependent upon the specific terms and conditions of each lease. Those terms and conditions generally make existing mineral leases subject to regulations enacted and orders issued after issuance of the lease, to Secretarial approval of proposed development activities, and to Secretarial direction as to the rate and location of exploration and development. Those leases on which actual physical impacts had occurred before October 21, 1976, and on which activities were being conducted as of that date, qualify as grandfathered uses and are subject to a more liberal standard of development (described in section 6 above) than is the case under valid existing rights. For the majority of pre-FLPMA leases, in accordance with the usual terms and conditions, where there were no pre-FLPMA physical impacts or where no activities were being conducted on the lease as of October 21, 1976, activities will be allowed so long as they are conducted in a manner that does not impair wilderness suitability. If activities proposed on a pre-FLPMA lease are denied because they cannot meet this standard, the lessee has the right to request a suspension of operation. The policy on lease suspension is explained more fully in Chapter III. J, 1 (d).

8. **Appropriation under the Mining Laws.** Lands under wilderness review will remain open to appropriation under the 1872 Mining Law except (a) lands that had been withdrawn from appropriation prior to the date of approval of FLPMA (October 21, 1976), and (b) lands withdrawn after October 21, 1976, for reasons other than preservation of their wilderness character. All mining activities, except grandfathered activities and activities on claims determined to have a pre-FLPMA discovery, will be regulated to prevent their impacts from impairing wilderness suitability. Claimants with a pre-FLPMA discovery are recognized as having valid existing rights (see section 7 above), and such operations will be regulated only to prevent unnecessary or undue degradation of the lands.

9. **Maintenance.** Existing structures and installations may be maintained to keep them in an effective, usable condition. Except for grandfathered uses and uses based on valid existing rights, maintenance will not be allowed to modify a structure or installation to a condition that would impair the area's suitability for wilderness designation. Measures required to carry out maintenance work will be allowed if these measures do not in themselves impair wilderness suitability. For this purpose — if necessary and only when authorized by the BLM — motor vehicles may be driven cross-country along routes designated by the BLM, without grading or blading. In such cases the operator will be required to reclaim any impacts caused by cross-country travel. In all cases, these activities must satisfy the nonimpairment criteria (see section B. 2 above).

10. **Motor Vehicles and Motorized Equipment.** The use of motor vehicles and motorized equipment does not necessarily impair wilderness suitability, if the use is on existing access routes or elsewhere so long as it does not cause impacts inconsistent with the reclamation requirements of the nonimpairment criteria (see section 2 above). Specific guidelines for recreation use of off-road vehicles appear in Chapter III, A.

Motor vehicles may be allowed off existing access routes when authorized by the BLM for these purposes: (a) in emergencies and search and rescue operations; (b) for maintenance, as described in section B. 9, above; (c) for construction and maintenance of approved structures mentioned elsewhere in this document; and (d) for official purposes by the BLM and other Federal, State, and local agencies and their agents only when necessary and specifically authorized by the BLM for protection of human life, safety, and property; for protection of the lands and their resources; and for gathering essential information on resources. In emergencies, the cross-country travel will not be held to the nonimpairment standard, but in all other cases cross-country travel must satisfy the nonimpairment criteria (see section 2 above), including reclamation requirements. Except in emergencies, the route must be approved by the BLM and will be the route least destructive of wilderness values, no grading or blading will be allowed, and any impacts will promptly be reclaimed by the agency responsible to meet the reclamation requirements of the nonimpairment criteria.

Helicopters and fixed-wing aircraft may be landed on existing airstrips, heliports, and helispots, and on unimproved sites (both land and water). No new landing facilities may be built, except under the following conditions: (a) temporary facilities that satisfy the nonimpairment criteria (see section 2, above), or (b) helispots that are necessary for fire control and are either (i) part of a fire management plan developed in accordance with Chapter III. D. of this Interim Management Policy, or (ii) necessary in an emergency, under section 11, below.

11. **Emergencies.** In emergencies, such as fire or flood, any action necessary to prevent loss of life or property may be taken, even if the action will impair wilderness suitability. This may include search and rescue operations in cases of lost or injured persons, or removal of the deceased. To the greatest extent feasible, emergency actions will be conducted in the manner that least impairs wilderness suitability, and the resulting impacts will be reclaimed as soon as possible to meet the reclamation requirements of the nonimpairment criteria (see section 2 above). Within 7 days after the emergency action is completed, a record of the circumstances and the action taken will be placed in the WSA case file in the BLM District Office.

12. **Air Quality.** Under the Clean Air Act (as amended, 1977), all BLM-administered lands were given Class II air quality classification, which allows moderate deterioration associated with moderate, well-controlled industrial and population growth. The BLM will continue to manage wilderness study areas as Class II.

The Department of the Interior will not recommend reclassification to the more strict Class I in connection with future wilderness recommendations resulting from the BLM wilderness review. The two processes are separate and distinct, and are accomplished under two different laws, FLPMA and the Clean Air Act. Recommendations for wilderness designation are made by the BLM through the Secretary of the Interior and the President to Congress. Air quality reclassification is the prerogative of the States, and it must follow a process mandated by the Clean Air Act Amendments of 1977, involving a study of health, environmental, economic, social, and energy effects,

a public hearing, and a report to the Environmental Protection Agency. The Department will not recommend any change in air quality classification as part of wilderness recommendations. (The Department's preliminary recommendation of September 7, 1979, on reclassification to Class I of 10 BLM primitive areas was an action taken pursuant to the Clean Air Act Amendments of 1977, which required a study and recommendation on these primitive areas. Those recommendations are not related to the wilderness review, and no such recommendations will be made as part of the wilderness review process.)

14. **Water Resource Projects.** Some lands under wilderness review may contain minor water resource facilities that were found in the wilderness inventory process to be substantially unnoticeable in the area. If such structures are present, they may be maintained under the maintenance policy set forth in section 9, above, so long as the maintenance does not change the location, size, or type, or increase the storage capacity of a reservoir. Survey and investigation activities for new water resource projects may be permitted so long as these activities are nonimpairing as defined by section 2, above. Motor vehicles may be used cross-country if necessary and specifically authorized by the BLM under the policy set forth in section 10, above.

15. **Pre-FLPMA Management.** Some lands under wilderness review (particularly among the instant study areas) were subject to more strict protection, prior to approval of FLPMA, than the Interim Management Policy requires. (For instance, some areas were withdrawn from mineral entry.) In these cases, any use will be controlled by the more strict protection of the wilderness resource, regardless of whether that is provided by the IMP or by a pre-FLPMA withdrawal or regulation that is still in effect.

16. **Contrast Rating.** The Bureau's contrast rating process (BLM Manual Section 8431, and the Contrast Rating Worksheet, Form 8400-4) may be used as an aid in determining whether the impacts of a proposed activity are substantially unnoticeable. However, results of the contrast rating will not be adequate in themselves to document a conclusion; contrast rating must be used in combination with other methods.

Chapter II. Implementation of the Interim Management Policy

This chapter explains how the Bureau of Land Management (BLM) will implement the Interim Management Policy (IMP). It tells (1) how actions or activities affected by the IMP will be identified, (2) how to evaluate these actions and determine whether they are permissible under the IMP, (3) how BLM interim management decisions will be reached, (4) how the IMP will be enforced, and (5) how interim management records will be kept.

A. Activities Subject to the IMP

To determine whether a proposed activity is subject to the Interim Management Policy, the following four questions must be considered regarding the affected lands.

1. Are the affected lands exempt from any wilderness review? If so, the IMP does not apply. The proposal will be assessed through normal BLM procedures.

2. Have the affected lands been dropped from further wilderness review by a final decision in the BLM wilderness inventory? If so, the IMP does not apply once the final inventory decision has been announced and any relevant administrative review process has been exhausted. In this case, the proposal will be assessed through normal BLM procedures.

3. Does the proposal involve public lands that are subject to the wilderness inventory, but on which there has not yet been a final inventory decision? If so, the Interim Management Policy will apply at least until the final inventory decision is made. Proceed with the evaluation described in section B, below.

If the responsible BLM official concludes or has reason to believe that the proposal is not permissible under the IMP, there is another option that may be appropriate in some cases. The BLM State Director has the option of initiating a "special project inventory" using the procedures of the intensive inventory (Step 4-6 in the *Wilderness Inventory Handbook*). This accelerated inventory will sort the lands into two categories:

a. Those identified as WSA's; in this case, the IMP will apply.

b. Those that do not qualify as WSA's and therefore are no longer subject to the Interim Management Policy. The proposal will be further assessed through normal BLM procedures.

If appropriate, this inventory may be done at the same time as the evaluation described in section B, below.

4. Does the proposal involve public lands identified by the BLM as a wilderness study area? If so, the Interim Management Policy will apply. Proceed with the evaluation described in section B, below.

B. Evaluation Procedures

1. **Exceptions to the Nonimpairment Standard.** Determine whether the activity is covered by one of the exceptions to the "nonimpairment" standard:

a. Does the activity qualify as a grandfathered mineral or grazing use continuing in the same manner and degree as on October 21, 1976? (Consult the applicable policies in Chapter I. B. 6 and Chapter III. H and J.)

b. Is the activity part of the development of a mining claim on which a valid discovery had been made before October 21, 1976? (Consult the applicable policies in Chapter I. B. 7 and Chapter III. J, 5(b).)

c. In a wilderness study area or inventory unit smaller than 5,000 acres (except islands), is the activity a mining activity under the 1872 Mining Law?

If one of these (a, b, c) is applicable, the activity will be considered acceptable under the Interim Management Policy, and it will be processed through normal BLM procedures. The determination that an activity is acceptable under the IMP will be recorded in appropriate case files and included in any decision documents.

2. **Evaluation Under the Nonimpairment Standard.** BLM field officials will cooperate with applicants to help identify ways by which a proposal can be brought into compliance with the nonimpairment standard, whenever possible. A proposed activity satisfies the nonimpairment standard if the BLM determines that it meets each of the following criteria, which are referred to as the "nonimpairment criteria";

a. it is temporary. This means that the use or activity may continue until the time when it must be terminated in order to meet the reclamation requirement of paragraphs (b) and (c) below. A temporary use that creates no new surface disturbance may continue unless Congress designates the area as wilderness, so long as it can easily and immediately be terminated at that time, if necessary to management of the area as wilderness.

b. Any temporary impacts caused by the activity must, at a minimum, be capable of being reclaimed to a condition of being substantially unnoticeable in the wilderness study area (or inventory unit) as a whole by the time the Secretary of the Interior is scheduled to send his recommendations on that area to the President, and the operator will be required to reclaim the impacts to that standard by that date. If the wilderness study is postponed, the reclamation deadline will be extended accordingly. If the wilderness study is accelerated, the reclamation deadline will not be changed. A full schedule of wilderness studies will be developed by the Department upon completion of the intensive wilderness inventory. In the meantime, in areas not yet scheduled for wilderness study, the reclamation will be scheduled for completion within 4 years after approval of the project. (Obviously, if and when the Interim Management Policy ceases to apply to an inventory unit dropped from wilderness review following a final wilderness inventory decision of the BLM State Director, the reclamation deadline previously specified will cease to apply.) The Secretary's schedule for transmitting his recommendations to the President will not be changed as a result of any unexpected inability to complete the reclamation by the specified date, and such inability will not constrain the Secretary's recommendation with respect to the area's suitability or nonsuitability for preservation as wilderness.

The reclamation will, to the extent practicable, be done while the activity is in progress. Reclamation will include the complete recontouring of all cuts and fills to blend with the natural topography, the replacement of topsoil, and the restoration of plant cover at least to the point where natural succession is occurring. Plant cover will be restored by means of reseeding or replanting, using species previously occurring in the area. If necessary, irrigation will be required. The reclamation schedule will be based on conservative assumptions with regard to growing conditions, so as to ensure that the reclamation will be complete, and the impacts will be substantially unnoticeable in the area as a whole, by the time the Secretary is scheduled to send his recommendations to the President. ("Substantially unnoticeable" is defined in Appendix F.)

c. When the activity is terminated, and after any needed reclamation is complete, the area's wilderness values must not have been degraded so far, compared with the area's values for other purposes, as to significantly constrain the Secretary's recommendation with respect to the area's suitability or nonsuitability for preservation as wilderness. The wilderness values to be considered are those mentioned in section 2(c) of the Wilderness Act, including naturalness, outstanding opportunities for solitude or for primitive and unconfined recreation, and ecological, geological or other features of scientific, educational, scenic, or historical value.

3. **Information for the Evaluation.** The information needed to reach conclusions on the nonimpairment criteria cited above will be documented in the environmental assessment (EA) or environmental impact statement (EIS) that is routinely prepared for every proposed action on public lands. A normal EA or EIS determines and records whether the activity will cause unnecessary or undue degradation of the lands. For lands under wilderness review, the EA or EIS for the proposed action will also address the nonimpairment standard. It will include the following information, most of which is already required by the normal EA or EIS procedure:

a. A description of the proposal and its alternatives, including:

- — Purpose and need for the action
- — Exact location
- — Access required, including projected use and location
- — Design considerations such as size, color, and materials
- — Support facilities or structures
- — Construction methods, including machinery or vehicles to be used
- — Maintenance schedules and procedures
- — Miles and/or acres of soil and vegetation disturbance.

b. A description of the affected environment, considering both the specific site and the wilderness study area (or inventory unit) in its entirety:

- — Meaningful descriptions of soils, erosion potential, vegetation, reclamation potential, topography and climate including precipitation
- — Existing uses and manmade or man-caused features
- — Wilderness characteristics as documented in the intensive inventory report
- — Discussion of scenery characteristics, vistas, key viewing areas and visitor use areas.

c. Analysis of reclamation:

- — What the particular reclamation plan will accomplish

- — How the process will be implemented (type and amounts of hand and machine work)
- — Vegetation to be reestablished
- — Schedule
- — Probability for success
- — If a reclamation plan is not available or is inadequate, assess what measures would be needed to return the disturbed areas to the required reclamation level.

d. Written assessment of cumulative impacts including the following:

- — If the project's impacts (after reclamation) had existed at the time of intensive inventory, would those impacts have disqualified the area from being identified as a wilderness study area?
- — Will the addition of this proposal produce an aggregate effect upon the area's wilderness characteristics and values that would constrain the Secretary's recommendation with respect to the area's suitability or nonsuitability for preservation as wilderness, considering the area in its expected condition at the time the Secretary sends his recommendation to the President?
- — For wilderness study areas that are pristine in character, will the addition of this proposal significantly reduce the overall wilderness quality of the WSA?

C. Decisions and Appeals

BLM decisions will continue to be made through existing procedures by those officials having delegated authority. IMP considerations will be factors in these decisions, but the decision authority, procedures and documentation will remain unchanged. The determination as to whether the project complies with the Interim Management Policy must be included in any decision documents and recorded in appropriate case files, as well as in the WSA files described in section E, below. Appeal procedures remain the same as provided by regulations governing the decision appealed. Applicants who are adversely affected by a management decision within lands under wilderness review will be informed of appeal procedures.

D. Enforcement

BLM will take all actions necessary to ensure full compliance with the Interim Management Policy. Every effort will be made to obtain voluntary compliance with the Interim Management Policy by users of the public lands. Where such efforts fail, BLM will promptly initiate additional appropriate action to achieve immediate compliance with the Interim Management Policy.

If unauthorized activities result in surface disturbance or other degradation of the area's suitability for preservation as wilderness, legal action will be initiated as appropriate to obtain full restoration of the area. Impacts resulting from unauthorized activities will not disqualify an area from WSA status.

All action to achieve compliance with the Interim Management Policy will be initiated pursuant to existing regulations governing the noncomplying activity.

In addition to normal enforcement procedures, the following additional steps must be taken whenever a District Manager believes an activity is taking place on lands under wilderness review that is not in compliance with the Interim Management Policy:

1. Immediately contact the owner of the operation, in any manner that can be verified with documentation. Explain the situation and, depending on the situation or activity, seek the owner's assistance in bringing the operation into compliance with the IMP.

2. If this approach does not resolve the matter, notify the State Director so that additional appropriate action may be taken immediately to prevent impairment of the area's wilderness suitability. The State Director will work with the Regional Solicitor to initiate appropriate legal action, if necessary. Send a copy of the case file to the Director, Bureau of Land Management, for transmittal to the Office of the Solicitor, Division of Energy and Resources, for information.

Criminal penalties are prescribed for prohibited acts under section 303 of FLPMA (43 USC 1733) and under the following other laws and regulations relevant to the Interim Management Policy:

- — Range Management
  Unauthorized grazing use: 43 CFR 4140.1(b), 4150.1, 4170.2, 4210.4, 9239.2-1, 9239.3
  Wild Free-Roaming Horse and Burro: 43 CFR 4760.2; 18 USC 3401
- — Timber Management
  Unauthorized cutting of timber — mineral and nonmineral lands and public lands in Alaska: 43 CFR 5511.1-1(f)(3), 5511.1-4(e), 5511.1-4(f), 5511.2-5, 9239.1-1, 9239.1-2; 18 USC 1852, 1853
- — Recreation Management
  Public property and resources: 43 CFR 8363.1-6, 8363.5
  Public land closures: 43 CFR 8364.2, 9239.2-1
  Special recreation permits: 43 CFR 8372.0-7; 18 USC 3401, 16 USC 460 l-6a, 16 USC 670 g-n, 16 USC 1241-1249
  Off-road vehicle use: 43 CFR 8340.0-7
- — Minerals Management
  Coal trespass — unauthorized exploration: 43 CFR 9239.5; 18 USC 1851.

E. Record Keeping

The BLM District Office will maintain an individual file for each wilderness study area or inventory unit. In addition to the required inventory documentation, this file should be used to record all actions (including authorized access routes) that are proposed or authorized after the effective date of this policy and to

record activities believed to be in violation of FLPMA, section 603, within the WSA or inventory unit. The file should contain the following information for any individual proposal:

1. The WSA or inventory unit number.
2. A brief description of the action.
3. Accurate map notations of the proposal.
4. A description of action taken on proposed and authorized activities (approved/disapproved/pending) and on activities believed to be in violation of FLPMA.
5. A cross-reference to the pertinent case files or decision documentation and the name of staff member handling the case.
6. Comments on problems encountered and on the current status of the proposal or investigation.

Chapter III. Guidelines for Specific Activities

The guidelines in this chapter are an application of the Interim Management Policy (IMP) to some of the most common activities that take place on the public lands. It should be recognized that factors other than the IMP enter into the decisions made by the Bureau of Land Management on specific projects and activities — among them the laws, policies, and regulations governing that type of activity, and resource management plans for the affected land.

The decisions on most of these activities will be made by BLM field officials. These decisions will not be a matter of simply approving or denying proposals. BLM field officials will assist applicants to find ways, if possible, of achieving their goals by methods that are consistent with the Interim Management Policy. To be sure, activities that cause major surface disturbance are not likely to be consistent with the IMP, except in grandfathered uses and valid existing rights. But many activities can be designed and carried out in a manner that does not cause such major disturbance, and these may be able to satisfy the IMP requirements.

A. Recreation

Most recreation activities (including fishing and hunting) are permitted on lands under wilderness review. However, some activities may be prohibited or restricted because they require permanent structures or because they depend on cross-country use of motor vehicles (for example: pickup vehicles for balloons or sailplanes).

BLM will analyze the magnitude of all proposed activities to ensure that recreation use will not cause impacts that impair the area's wilderness suitability.

Most recreation uses take place under general permission from the BLM rather than under specific project applications. There is a possibility that a continuing use or an increasing use could gradually cause increased impacts and, over time, impair the area's wilderness suitability. An example might be erosion caused by increased off-road vehicle travel on trails. To prevent this type of impairment caused by cumulative impacts, the BLM will monitor ongoing recreation uses and, if necessary, adjust the time, location, or quantity of use, or prohibit that use in the impacted area.

1. No new permanent recreational roads, structures, or installations will be permitted, except structures or installations that are the minimum necessary for human health and safety or the minimum necessary for public enjoyment of wilderness values. In these cases, facilities will be installed so that they are substantially unnoticeable and minimize surface disturbance. Temporary access routes, structures, and installations may be permitted if they meet the nonimpairment criteria.

2. Hobby collecting of mineral specimens (rockhounding) and vegetative specimens may be permitted.

3. Recreational use of off-road vehicles (ORVs) may be permitted on existing ways and trails and within "open" areas designated prior to approval of FLPMA (October 21, 1976). The BLM will cooperate with ORV organizations to achieve the least amount of new impact on lands under wilderness review. If impacts of ORVs, either on or off existing ways and trails, threaten to impair the area's wilderness suitability, the BLM may close the affected lands to the type of ORVs causing the problem. In some cases, time or space zoning, public education, or a rest-rotation system may make a total closure unnecessary.

No lands will be designated as "closed" solely because they are under wilderness review, but if increasing impacts threaten to impair wilderness suitability, the BLM will move to control those impacts and may designate the area as "closed" to the type of vehicles causing the problem, in order to control the impacts. The Bureau also has authority under other programs to regulate ORV use to minimize damage to wildlife and other resource values.

4. Organized ORV events may be allowed to pass through areas under wilderness review on existing ways and trails, so long as the BLM has determined that such use satisfies the nonimpairment criteria. Participants and spectators using ORVs will be restricted to the designated ways and trails, which will be appropriately flagged. Assembly areas, start or finish lines, and gasoline pit stops will not be allowed. Care will be taken to ensure that the event and its impacts will not cause degradation of the area's wilderness values (including archeological and paleontological values) so far, compared with the area's values for other purposes, as to significantly constrain the Secretary's recommendation with respect to the area's suitability or nonsuitability for preservation as wilderness.

Based on past practice, it is expected that ORV events involving cross-country travel (off existing ways and trails) as part of the route would rarely satisfy the nonimpairment criteria. However, if the BLM determines that the event can and will be carefully controlled to ensure that it fully satisfies the nonimpairment criteria, the use of cross-country route segments may be approved. Participants and spectators using ORVs will be restricted to the

Nonimpairment Criteria

The following three criteria, previously set forth in Chapter I. B. 2 of this document, are referred to many times in this chapter as the "nonimpairment criteria." They are restated here for ready reference.

Activities will be considered nonimpairing if the BLM determines that they meet each of the following criteria:

(a) It is temporary. This means that the use or activity may continue until the time when it must be terminated in order to meet the reclamation requirement of paragraphs (b) and (c) below. A temporary use that creates no new surface disturbance may continue unless Congress designates the area as wilderness, so long as it can easily and immediately be terminated at that time, if necessary to management of the area as wilderness.

(b) Any temporary impacts caused by the activity must, at a minimum, be capable of being reclaimed to a condition of being substantially unnoticeable in the wilderness study area (or inventory unit) as a whole by the time the Secretary of the Interior is scheduled to send his recommendations on that area to the President, and the operator will be required to reclaim the impacts to that standard by that date. If the wilderness study is postponed, the reclamation deadline will be extended accordingly. If the wilderness study is accelerated, the reclamation deadline will not be changed. A full schedule of wilderness studies will be developed by the Department upon completion of the intensive wilderness inventory. In the meantime, in areas not yet scheduled for wilderness study, the reclamation will be scheduled for completion within 4 years after approval of the activity. (Obviously, if and when the Interim Management Policy ceases to apply to an inventory unit dropped from wilderness review following a final wilderness inventory decision of the BLM State Director, the reclamation deadline previously specified will cease to apply.) The Secretary's schedule for transmitting his recommendations to the President will not be changed as a result of any unexpected inability to complete the reclamation by the specified date, and such inability will not constrain the Secretary's recommendation with respect to the area's suitability or nonsuitability for preservation as wilderness.

The reclamation will, to the extent practicable, be done while the activity is in progress. Reclamation will include the complete recontouring of all cuts and fills to blend with the natural topography, the replacement of topsoil, and the restoration of plant cover at least to the point where natural succession is occurring. Plant cover will be restored by means of reseeding or replanting, using species previously occurring in the area. If necessary, irrigation will be required. The reclamation will be complete, and the impacts will be substantially unnoticeable in the area as a whole, by the time the Secretary is scheduled to send his recommendations to the President. ("Substantially unnoticeable" is defined in Appendix F.)

(c) When the activity is terminated, and after any needed reclamation is complete, the area's wilderness values must not have been degraded so far, compared with the area's values for other purposes, as to significantly constrain the Secretary's recommendation with respect to the area's suitability or nonsuitability for preservation as wilderness. The wilderness values to be considered are those mentioned in section 2(c) of the Wilderness Act, including naturalness, outstanding opportunities for solitude or for primitive and unconfined recreation, and ecological, geological or other features of scientific, educational, scenic, or historical value.

designated route and designated spectator zones, which will be appropriately flagged. Any impacts caused by the event must be reclaimed as specified in the nonimpairment criteria; therefore, the cross-country route segment and the spectator zones will not be open to recreational ORV use except during the event. Assembly areas, start or finish lines, and gasoline pit stops will not be allowed. Care will he taken to ensure that the event and its impacts will not cause degradation of the area's wilderness values (including archeological and paleontological values) so far, compared with the area's values for other purposes, as to significantly constrain the Secretary's recommendation with respect to the area's suitability or nonsuitability for preservation as wilderness.

5. Vehicles designed for travel across snow or sand dunes may be permitted cross-country in areas designated for use by snow or sand vehicles. These vehicles may also be permitted on existing ways and trails under the guidelines in sections 3 and 4 above.

6. Facilities necessary for visitors' health and safety may be provided in either of two ways: (a) permanent facilities that are the minimum necessary for public enjoyment of wilderness values (for example: vault toilets, water well with hand pump); (b) temporary facilities that meet the nonimpairment criteria (for example: portable toilets). These facilities will be installed so that they are substantially unnoticeable and minimize surface disturbance.

7. Boating may be permitted, with or without motors. The BLM does not necessarily have authority over all waters within the public lands; some are under jurisdiction of the States. Therefore, the following guidelines apply only to those waters on which the BLM has authority to regulate boating.

No waters will be closed to motorboats solely because they are in areas under wilderness review, but if increasing impacts of boating (such as shore erosion or water pollution) threaten to impair wilderness suitability, the BLM may close the affected waters to motorboats. In some cases, time or space zoning or public education may make a total closure unnecessary. The Bureau also has authority under other programs to regulate boating to minimize damage to wildlife and other resource values.

River running, with or without motors, may be permitted. Cumulative impacts on river campsites will be monitored to prevent impairment of wilderness suitability.

No permanent launching ramps or boat docks will be built. A "brow log" may be used to reduce erosion at boat landings. Temporary launching ramps and boat docks may be installed only if they satisfy the nonimpairment criteria.

8. Environmental education and interpretive programs may be conducted so long as no permanent facilities are required.

9. New trails for foot or horse travel may be built, if they are the minimum necessary for public enjoyment of wilderness values and are constructed in a manner that causes minimal surface disturbance and ensures that the trails blend into the natural setting. Motor vehicles will not be permitted on the new foot or horse trails.

10. Camping may be permitted. Campsites for primitive recreation use may be established if they are the minimum necessary for public enjoyment of wilderness values. Otherwise, campsites and campgrounds may be installed only if they are temporary facilities thar satisfy the nonimpairment criteria. Camping with recreational vehicles may occur along existing ways so long as this use satisfies the nonimpairment criteria.

11. Cross-country skiing may be permitted. Downhill (Alpine) skiing may be permitted only if any support facilities are temporary ones that satisfy the nonimpairment criteria.

12. Aerial activities may be permitted so long as they do not require the use of motorized vehicles off ways and trails to retrieve equipment, except in areas designated as "open" before October 21, 1976. Among these are ballooning, sailplaning, hang gliding, and parachuting (sky diving).

13. Recreational gold dredging and panning, when conducted without location of a mining claim, may be permitted so long as it is done in a manner that satisfies the nonimpairment criteria. If the activity would cause significant damage to fish spawning or rearing areas lasting after the Secretary is scheduled to send his wilderness recommendation on the area to the President, it will be considered to impair wilderness suitability, and the activity will be controlled to prevent such impacts. (This activity is so regulated because it is not done on a mining claim, and therefore is not covered by the exception for "appropriation under the mining laws.") In locations where gold dredging or panning was being done as of October 21, 1976, it may qualify as a grandfathered use. (For further information on grandfathered uses see Chapter I. B. 6.)

14. Concessions will be permitted only if the use and related facilities are temporary and satisfy the nonimpairment criteria. Examples that may qualify include mobile refreshment stands, river trip outfitters, guides, and providers of pack animals and saddle horses.

B. Cultural and Paleontological Resources

Cultural and paleontological resource inventories, studies, and research involving surface examination or limited subsurface sampling may be permitted. Salvage of archeological and paleontological sites; rehabilitation, stabilization, reconstruction, and restoration work on historic structures; excavation; and extensive surface collection may be permitted if the specific project satisfies the nonimpairment criteria. Permanent physical protection, such as fences, will be limited to those measures needed to protect high-value resources, and will he substantially unnoticeable in the area as a whole.

C. Lands Actions — Disposal, Rights-of-Way, Access, and Withdrawals

1. **Disposal.** With the exceptions provided below, lands under wilderness review may not be disposed of through any means, including public sales, exchanges, patents under the Recreation and Public

Purposes Act, color of title classes I and II, sales under the Unintentional Trespass Act, agricultural leases, desert land entries (except where a vested right was established prior to October 21, 1976), or State selections. (Lands tentatively approved for State selection in Alaska are exempt from wilderness review and are not subject to the Interim Management Policy.)

Disposals of the following types may be permitted under normal BLM procedures: mining patents; desert land entries in which a vested right was established prior to October 21, 1976; exchanges approved prior to October 21, 1976, under authority of the Taylor Grazing Act, section 8; and homestead entries in which a vested right was established prior to October 21, 1976.

Disposals of the following types may be permitted only if BLM determines that the case in question satisfies the nonimpairment criteria: temporary use permits, and leases under the Recreation and Public Purposes Act.

Land exchanges may be made when BLM receives lands within an area under wilderness review, in exchange for public lands that are not under wilderness review.

2. **Rights-of-Way.** Existing rights-of-way may be renewed if they are still being used for their authorized purpose. If necessary for normal, routine maintenance to keep an existing pipeline in a safe and reliable condition, a temporary work area, temporary access route, or cross-country use of motor vehicles may be permitted so long as the activity is determined to satisfy the nonimpairment criteria. Emergency maintenance or emergency repairs may be made to protect human health and safety or to protect wilderness values, even if the activity impairs wilderness suitability; in such cases, the policy on emergencies, set forth in Chapter I. B. 11, must be complied with.

New rights-of-way may be approved only for temporary uses that satisfy the nonimpairment criteria.

3. **Right-of-Way Corridors.** Right-of-way corridors may be designated on lands under wilderness review. However, this will in no way interfere with the wilderness review. No new rights-of-way or expansions of existing rights-of-way will be approved except under the criteria in paragraph 2 above. A right-of-way corridor is not an authorization, but a planning tool. The need for actual rights-of-way within a designated corridor will be considered during the wilderness study, but any recommended rights-of-way inconsistent with the nonimpairment criteria will not be approved unless Congress decides not to designate the area as wilderness.

4. **Access to Mining Claims and Non-Federal Land**[1]**.** Construction of permanent access routes will not be approved on lands under wilderness review, except in two conditions: (a) when such access qualifies as part of the same manner and degree of grandfathered mineral uses and there is no reasonable, less impairing, alternative access available, and (b) when necessary for operations on mining claims that had a valid discovery prior to October 21, 1976, under criteria described in section J of this chapter, and there is no reasonable, less impairing, alternative access available. Temporary access routes may be approved only if they satisfy the nonimpairment criteria. The BLM will cooperate with applicants to identify reasonable alternative routes or means of access. Access by use of existing ways and trails, by air or water, by horse or pack train, or on foot are among the available methods that probably would satisfy the nonimpairment criteria. If the access constraints are unsatisfactory to the legal owners of property to which access is being sought, the BLM may consider acquiring the property either through exchange of lands or through some other agreeable method of acquisition.

5. **Withdrawals.** Existing withdrawals for military purposes or for specific purposes of agencies other than the BLM may be renewed if the withdrawal is still serving its purpose. No new withdrawals may be made for such purposes, except temporary withdrawals that satisfy the nonimpairment criteria.

Withdrawals transferring land to the U.S. Fish and Wildlife Service, U.S. Forest Service, or National Park Service may be approved if the land is part of an already-designated unit of the National Wilderness Preservation System or is part of a wilderness study area mandated by Act of Congress.

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[1] **Access to State School Lands.** The law is not entirely clear on the extent to which a State (or its permittees or lessees) has a right of access to State school trust lands which are entirely surrounded by public lands. A Federal district court in Utah has recently held that the State has a right of access which is subject to regulation by BLM so long as the State may reasonably develop the State lands economically to fulfill the purpose of the State school land grant. Appeal of this decision is now under consideration by the Solicitor General of the United States. Moreover, the Attorney General of the United States is preparing an opinion, at the request of the U.S. Forest Service, on the right of access a State or private landowner has across national forest lands, and the Attorney General's opinion obviously may have implications for the BLM in the management of its lands. Finally, the Supreme Court has under consideration issues concerning the nature of the State school land grant, and the authority of the Secretary of the Interior with respect to those grants.

Because of the pendency of all these matters, the position expressed in this Interim Management Policy may be subject to change, based on further guidance the Department of the Interior may receive from the Department of Justice or the courts. It seems likely, however, that no matter how these issues are ultimately resolved, the BLM has authority to control the method and route of access, if reasonable alternative methods and routes of access are available that would not impair an area's suitability for preservation as wilderness, and therefore can exercise such regulatory authority to prevent impairment of an area's wilderness suitability. Final guidance will be issued by the BLM at a later date.

Withdrawals for purposes of resource protection may be made (except withdrawals from appropriation under the mining laws in order to preserve wilderness character), so long as the intended use satisfies the nonimpairment criteria.

D. Forestry

Those Oregon and California Grant (O & C) lands that are managed for permanent forest production (i.e., commercial timber production) are exempt from wilderness review, and therefore from the Interim Management Policy.

Commercial timber harvest is not permitted on lands under wilderness review, except where an existing contract, permit, lease, or license for timber harvest issued prior to October 21, 1976, cannot be modified to comply with the nonimpairment criteria. The BLM will reevaluate all such instruments to determine whether their terms permit BLM to revoke, cancel, or modify them so as to satisfy the nonimpairment criteria.

Clearcuts, selective cuts, thinning, and stand conversion will not be permitted. Pruning, site preparation, and reforestation will be permitted only in cases that satisfy the nonimpairment criteria. Reforestation using native species may be done following fire or other natural disaster if natural seeding is not adequate.

Salvage logging after natural disaster may be permitted if this can be done through nonimpairing methods, such as use of existing access routes or temporary access routes that satisfy the nonimpairment criteria. Motorized wheeled or track-laying logging equipment may be used in the area of salvage operations if the activity satisfies the nonimpairment criteria.

Trees may be cut when necessary as part of a mining operation on a pre-FLPMA claim with a valid pre-FLPMA discovery, or when the BLM has determined that this is necessary for insect and disease control or in emergencies such as fire.

Tree improvement (genetic selection and pollination), seed collection (climbing and squirrel cache), and pine nut gathering may be permitted. Insect and disease control by chemical means may be permitted if applied to individual trees or areas up to 5 acres, or to larger areas under emergency conditions when there is no effective alternative.

Domestic firewood gathering, conducted under BLM permits, may be allowed to continue in areas where it was being done before October 21, 1976 (including cross-country use of motor vehicles), only so long as it satisfies the nonimpairment criteria.

E. Wildlife

Hunting, fishing, and trapping are permitted on lands under wilderness review, under State regulations. The BLM will continue to cooperate with State wildlife agencies in the management of resident wildlife species in accordance with established policies and procedures.

Stocking of wildlife and fish species native to North America may be permitted. Species such as the chukar partridge and brown trout, which are not native to North America but are now widely established in the West and elsewhere, may also be introduced. Where exotics were being stocked before October 21, 1976, the stocking may continue.

Introduction of threatened, endangered, or sensitive species native to North America may be allowed. If necessary, enclosures and related facilities may be built, so long as they satisfy the nonimpairment criteria.

Vegetative manipulation by chemical, mechanical, or biological means will not be permitted, except to maintain plantings or seedings established before October 21, 1976. Prescribed burning may also be done where it is required to maintain the natural condition of fire-dependent ecosystems. Hand or aerial seeding of native species may be done to restore natural vegetation.

State and Federal agencies may use temporary enclosures and facilities to trap or transplant wildlife so long as the nonimpairment criteria are met. Certain permanent installations may be permitted to maintain or improve conditions for wildlife and fish, if the benefiting species enhance wilderness values. Installations to protect sources of water on which native wildlife depend, such as exclosures, may be built for permanent use if they are substantially unnoticeable in the area as a whole and blend into the natural setting. Springs, wells, and guzzlers may be maintained, and new ones may be installed if they are substantially unnoticeable in the area and would not require maintenance involving motor vehicles if the area were designated as wilderness. (However, motor vehicles may be used to install and maintain these facilities while the area is under wilderness review, as is discussed below.) Construction activities must satisfy the nonimpairment criteria.

Fisheries enhancement activities may be permitted as long as their purpose is to protect natural conditions and to restore deteriorated habitat, and so long as they are substantially unnoticeable in the area as a whole. Fish traps, fish ladders, stream barriers, sediment control projects, and aerial stocking are among these permitted activities. Any new structures must not require maintenance by motor vehicles if the area is designated as wilderness. Construction activities must satisfy the nonimpairment criteria.

Helicopters may be used in fisheries and wildlife enhancement projects and in enforcement of fish and wildlife laws. Under the policy set forth in Chapter I. B. 10 of this document, the BLM may authorize State or local law enforcement officers to use patrol vehicles cross-country when necessary to protect the lands and their resources.

Motor vehicles may also be used cross-country to build or maintain structures and installations authorized under the above guidelines, and temporary access routes may be built for this purpose so long as they satisfy the nonimpairment criteria.

Animal damage control activities directed at individual offending animals, and not indiscriminate control of populations, may be permitted, so long as this will not jeopardize the continued presence of any species in the area.

F. Fire Management

BLM will continue all presuppression, suppression, and post-suppression fire activities under current methods of operation, using caution to avoid unnecessary impairment of an area's suitability for preservation as wilderness, until new fire management plans are developed for specific wilderness study areas. These new fire management plans, including prescribed burning and control of wild fire, will be developed promptly. Management objectives for the area must take into account the existing wilderness characteristics of the area, the need to prevent actions that would impair the suitability of the area for designation as wilderness, historic fire occurrence, natural role of fire, proposed degree of suppression, expected fire behavior, acceptable suppression techniques, adequate buffer zones, smoke management, effect on private or other agency inholdings and on adjacent landowners, the limits of acceptable fire weather, fire behavior, fire effects, and the access requirements of other agencies. Emergency fire rehabilitation measures will continue to be carried out under guidelines in Manual Section 7441 and Departmental Manual Part 910.

To hold fire to the desired level, fire management plans will rely on (1) the most effective methods of suppression that are least damaging to wilderness values, other resources, and the environment, while requiring the least expenditure of public funds to rehabilitate the area; (2) an aggressive fire prevention program; and (3) an integrated cooperative suppression program by agencies of the Department among themselves or with other qualified suppression organizations. Present suppression methods may be used, including use of tool caches, aircraft, motorboats, and motorized fire-fighting equipment. Existing fire lookout towers and helispots may be used and maintained; new ones may be approved as part of the fire management plan if they are the minimum necessary for fire suppression in the wilderness study area.

G. Watershed Management

Land treatments (e.g., trenching, ripping, pitting, terracing, plowing) will not be permitted on lands under wilderness review. Vegetative manipulation by chemical, mechanical, or biological means will not be permitted except: (1) plantings or seedings established before October 21, 1976, may be maintained, but not expanded; and (2) such activities may be approved if they qualify under the "manner and degree" provision for grandfathered grazing uses (see section H, below). (There is also a provision for vegetative manipulation for insect and disease control, in section H. 4(e) of this chapter.) Hand or aerial seeding of native species may be done to restore natural vegetation. Structural and similar watershed rehabilitation measures will be permitted only if they satisfy the nonimpairment criteria.

Permanent snow gauges, air quality monitoring instruments, water quantity and quality measuring instruments, and hydrometeorologic devices may be established if these are the minimum necessary for determination of real or potential threats to human health, safety, or property and if they are substantially unnoticeable in the area. These must, however, use miniaturized equipment, be adequately camouflaged, and must not require access by motor vehicle if the area were designated as wilderness. Temporary monitoring devices for the same purposes may be installed without the above restrictions on use of motor vehicles if they satisfy the nonimpairment criteria.

Watershed rehabilitation work required by emergency conditions caused by fire, flood, storms, biological phenomena, landslides, or fumes may involve any treatments needed but must be conducted to the extent feasible in a manner that will not impair wilderness suitability. For example, the rehabilitation work will use the methods least damaging to the wilderness resource. To the extent feasible, reseeding and planting under emergency conditions will utilize species native to the area and will avoid cross-country use of motorized equipment. Seedings and plantings will be staggered or irregular, so as to avoid a straight-line plantation appearance. Any unavoidable impacts which cannot be reclaimed by the time specified under the nonimpairment criteria must receive intensive reclamation efforts to achieve full reclamation as soon as possible.

Rehabilitation projects will be documented according to standard BLM procedures.

H. Rangeland Management

1. **General.** In some respects, rangeland management activities are less restricted by the Interim Management Policy than other activities. This is partly because livestock grazing, at appropriate stocking levels, in itself, is compatible with maintaining wilderness suitability; it is partly because most grazing operations on the public lands qualify as grandfathered uses; and it is partly because some range improvements enhance wilderness values by better protecting the rangeland in a natural condition.

Some of the rangeland management activities involve a distinction between grazing uses that are "grandfathered" by section 603(c) of FLPMA and those that are not. The criteria for these two categories follow:

a. Grandfathered grazing use is that grazing authorized and used during the 1976 grazing fee year, including areas that were in the "rest" cycle of a grazing system.

b. Non-grandfathered grazing use is any grazing that was not authorized and used during the 1976 grazing fee year.

2. **Grazing.**

a. **Changes in Grazing.** In both grandfathered and non-grandfathered grazing, changes in number and kind of livestock or period of use may be permitted, so long as (1) the changes do not cause declining condition or trend of the vegetation or soil, and (2) the changes do not cause unnecessary or undue degradation of the lands.

b. **Prevention of Unnecessary or Undue Degradation.** The grandfather clause does not freeze grandfathered grazing uses at the same level as existed on October 21, 1976. The mandate, in section 603(c), to prevent unnecessery or undue degradation of the lands explicitly applies to grandfathered uses. Thus, the grandfather provision will not prevent implementation of reductions in authorized use adopted in allotment management plans.

c. **Grazing Systems.** Grazing systems in operation during the 1976 grazing fee year may continue to be used and maintained; any new range improvements must satisfy the guidelines for range improvements in section 3, below. New grazing systems may be established as long as the new range improvements needed to implement the system are permissible under the guidelines in section 3.

d. **Motor Vehicles.** Motorized access on existing access routes may be permitted. Cross-country motorized access may be authorized along routes specified by the BLM if it satisfies the nonimpairment criteria, including reclamation requirements; no grading or blading will be permitted. Temporary roads may be built if the BLM has determined that they setisfy the nonimpairment criteria.

3. **Range Improvements.** This section sets forth the general criteria that will govern the use, maintenance, and installation of range improvements. The following section 4 shows how these criteria will affect certain specific types of improvements.

a. **Pre-FLPMA Range Improvements.** Range improvements existing or under construction on October 21, 1976, may continue to be used and maintained.

b. **New, Grandfathered Range Improvements.** In a grandfathered grazing operation, if a permit between the BLM and the grazing operator, issued before October 21, 1976, provided for installation by the operator of a series or system of improvements and part of that series or system had been installed before that date, the remaining improvements of the same kind may be installed.

c. **New, Temporary Range Improvements.** Temporary range improvements may be installed if they satisfy the nonimpairment criteria.

d. **New, Permanent Range Improvements.** New, permanent range improvements not permissible under (b) above may be approved for the purpose of enhancing wilderness values by better protecting the rangeland in a *natural condition*. In such cases they must meet all of the following criteria:

— they would not require motorized access if the area were designated as wilderness;

— the improvements are substantially unnoticeable in the wilderness study area (or inventory unit) as a whole;

— after any needed reclamation is complete, the area's wilderness values must not have been degraded so far, compared with the area's values for other purposes, as to significantly constrain the Secretary's recommendation with respect to the area's suitability or nonsuitability for preservation as wilderness.

For construction of approved range improvements, cross-country use of motor vehicles or construction of temporary access routes may be approved if BLM has determined that they satisfy the nonimpairment criteria.

4. **Specific Guidelines for Range Improvements.**

a. **Salting.** In both grandfathered and non-grandfathered grazing operations, selting practices may be continued. New salting locations may be established to improve the distribution of grazing use so long as motorized access is on existing ways and trails or is cross-country access determined by the BLM to satisfy the nonimpairment criteria.

b. **Supplemental Feeding.** Supplemental feeding may be continued in grandfathered grazing operations if it was part of the operation in the 1976 grazing fee year. Otherwise, in both grandfathered and non-grandfathered grazing, supplemental feeding may be done in cases where BLM has determined that it satisfies the nonimpairment criteria and under emergency conditions, such as unexpected heavy snowfall.

c. **Fences.** In both grandfathered and non-grandfathered grazing, new, permanent fences may be built and maintained if the BLM determines that they are needed to better protect the rangeland in a natural condition. Barbed wire and wood or steel fence posts may be used; the fence will be designed to blend with the landscape and topography, and must meet the criteria in section 3 (d) above.

d. **Water Developments.** In both grandfathered and non-grandfathered grazing, new, permanent water developments will be limited as follows, and must meet the criteria in section 3 (d) above:

— Springs may be developed so long as the water trough blends into the surrounding landscape, and the pipeline area is put back to original contour, and plant cover restored as specified in the nonimpairment criteria.

— Reservoirs, pits, and charcos may be developed if they are designed and constructed to blend into the surrounding landscape. They should be no larger than necessary, and not to exceed 10 acre feet in storage capacity. Borrow areas for fills will be from the impoundment area or within the high-water area.

e. **Vegetative Manipulation.** This includes chemical, mechanical, and biological methods. In grandfathered grazing operations, if vegetative manipulation had been done on the allotment before October 21, 1976, and its impacts were noticeable to the average visitor on that date, the improvement may be maintained by applying the same treatment again on the land previously treated. Otherwise, vegetative manipulation may be used only for control of small areas of poisonous plants or in emergencies for control of insects and disease when there is no effective alternative. Limited exceptions are specified as follows:

— Prescribed burning may also be used where necessary to maintain fire-dependent natural ecosystems.

— Reseeding may also be done by hand or aerial methods to restore natural vegetation. (There is also a provision for reseeding in emergency rehabilitation projects, described in section G of this chapter.)

5. **Wild Horse and Burro Management.** Temporary facilities for management of wild horses and burros may be installed if they satisfy the nonimpairment criteria. The above guidelines for grazing practices and range improvements will also apply to wild horse and burro management, where appropriate.

J. Mineral Uses.

An understanding of several concepts is necessary before reading the following text on mining and mineral leasing operations. In Chapter I we have explained the meaning of the "grandfather" concept, "manner and degree," "nonimpairment," and "valid existing rights." Definitions of "unnecessery or undue degradation" and "substantially unnoticeable" appear in Appendix F.

The meaning and intent of these key terms will guide the minerals management in wilderness study areas during the study period. Once the wilderness study is completed and if an area is designated by Congress as wilderness, minerals management will then be directed by section 4(d) of the Wilderness Act of 1964, unless the terms of particular leases allow for greater regulation than the Wilderness Act, or unless Congress provides otherwise.

All mineral activities that were existing on October 21, 1976, may continue in the same manner and degree in which they were being conducted on October 21, 1976, even if they would impair wilderness suitability. These activities fall within the grandfather concept as discussed in Chapter I. B. 6. They will, however, be regulated to prevent unnecessary or undue degradation of the lands.

On pre-FLPMA oil and gas, geothermal, and coal leases which had no surface-disturbing impacts as of October 21, 1976, if proposed activities are denied because they cannot meet the nonimpairment criteria, the lessee has the right to request a suspension of operation. The policy on lease suspension is explained more fully in section 1 (d), below.

Valid existing rights of mining claimants will be recognized. For a claim to qualify as a valid existing right, a "discovery" of a valuable mineral, the test of which has been accepted in case law as the "prudent man test," must be demonstrated. Activities under valid existing rights may impair wilderness suitability, but they will be regulated to prevent unnecessery or undue degradation of the lands.

All leases issued on or before October 21, 1976, have valid existing rights, the extent of which is defined by the terms and conditions of each specific lease. For the majority of pre-FLPMA leases the lease rights are not absolute nor unqualified. In other words, if there were no pre-FLPMA grandfathered activities, post-FLPMA operations would not be allowed if they would impair wilderness suitability.

Activities proposed under leases, permits and mining claims which are not covered by the grandfather or valid existing rights provisions will be subject to the nonimpairment criteria as described at the beginning of Chapter III.

1. **Oil and Gas and Geothermal Leasing, Exploration, and Development.**

a. **Pre-FLPMA Leases.** All pre-FLPMA leases on which actual pre-FLPMA physical impacts had been created through such activities as seismic, thermal gradient or other exploration drilling, production drilling, or construction of production-related facilities, are grandfathered. Operations on these leases may continue even if impairing, so long as they do not exceed manner and degree as defined in the grandfather concept. As explained in Chapter I. B. 6, this may mean that pre-FLPMA activities which began outside the boundary of a wilderness study area may be continued by that lessee onto the same or other leases held by that lessee in an adjacent wilderness study area, as long as the activity follows the logical pace and progression of development and the impacts are not of a significantly different kind.

Activities on pre-FLPMA leases on which there were no pre-FLPMA impacts will be allowed if the BLM determines that the impacts setisfy the nonimpairment criteria. If proposed activities are denied because they cannot satisfy the nonimpairment criteria, the lessee has the right to request a suspension of operation. The policy on lease suspension is explained more fully in section (d), below.

b. **Post-FLPMA Leases Issued Prior to the Issuance of the Interim Management Policy.** Regardless of the conditions and terms under which these leases were issued, there are no grandfathered uses inherent in post-FLPMA leases. Activities on post-FLPMA leases will be subject to a special wilderness protection stipulation as stated in Appendix A. If there is already production on any lease issued in this period, it would be allowed to continue in the least impairing manner. Increases in production or production facilities would not be allowed if the resultant impacts would further impair.

c. **New Leases.** New leases may be issued provided the special stipulation (Appendix A) is attached. Activities may occur under these leases so long as the BLM determines that they satisfy the nonimpairment criteria.

d. **Suspension of Lease Terms - Oil and Gas and Geothermal.** The Secretary of the interior has the discretionary authority to direct or assent to a suspension of the operating and producing requirements of an oil and gas or geothermal resources lease if it is in the interest of conservation to do so and when the specific circumstances involved warrant such an action.

When the U.S. Geological Survey (GS) notifies a proponent that an application to conduct operations is being denied because of the prospect for impairment of wilderness suitability of an area under study or review as to its potential for study, it should advise the proponent of the right to (1) appeal that denial, (2) request a suspension of operation, and (3) take such other actions as are deemed appropriate to protect the rights granted by the lease. It is not appropriate for the GS or BLM to speculate as to the potential for suspension since the specific circumstances involved in each case will be determining factors in any decision. However, if the lessees who are denied the right to conduct operations because of conflicts with wilderness review are to be given a reasonable opportunity to preserve their leases, it is imperative that these potential conflicts be identified as promptly as possible during the review of requests for a preliminary environmental review, applications to conduct operations, and plans of operation, and that any written recommendation for denial be provided promptly to the GS so that it may in turn promptly notify the lessee.

For leases not encumbered with wilderness protection or no-surface-occupancy stipulations and on which an application for an otherwise acceptable plan of operations was denied for wilderness or endangered species considerations, the Secretary has established a policy of assenting to a suspension of operation or production for the time necessary to complete necessary studies and consultations and, if applicable, for a decision on wilderness status to be made. The same policy would apply in cases where a discovery of oil and/or gas has been made in a nonimpairing manner on a leasehold encumbered with a wilderness protection stipulation and for which an otherwise acceptable plan of development and production operations has been denied because it would impair suitability for wilderness.

On the other hand, in instances where a lease is encumbered by a wilderness protection or no-surface-occupancy stipulation and there has been no discovery and a lessee's request for application for permit to drill has been denied, the Secretary's policy generally has been and will be to not grant relief from the terms of the stipulation by granting a suspension.

Lessees are hereby advised that in cases where wilderness review is a factor, applications for proposed operations should be filed no later than 120 days before expiration of the lease term in order to provide adequate processing time, including time for BLM to determine whether the proposed operations would impair the suitability of the area of proposed activity for preservation as wilderness.

e. **Exploration.** Post-FLPMA oil and gas or geothermal exploration applied for under 43 CFR 3045 or 43 CFR 3209 will continue to be approved if the BLM determines that it satisfies the nonimpairment criteria. Pre-FLPMA exploration will be allowed to continue as provided under the grandfather concept. Consistent with sections 302(b) and 603(c) of FLPMA, all oil and gas and geothermal "Notices of Intent to Conduct Exploration" must be approved by BLM prior to commencement of operations.

2. **Coal.** The policy for coal is more exclusive than the other leasable minerals because of the recent regulations 43 CFR 3461, which were issued on July 19, 1979. These regulations, promulgated as a result of the Surface Mining Control and Reclamation Act and FLPMA, establish criteria for identifying lands that are unsuitable for all or certain stipulated methods of coal mining. These rules, then, supplemented by section 603(c) of FLPMA, will provide the basis for coal management in wilderness study areas.

a. **Pre-FLPMA Leases and Prospecting Permits.** All pre-FLPMA coal leases on which actual pre-FLPMA physical impacts had been created through such activities as production or construction of production-related facilities, may continue consistent with the grandfather provision, even if this would impair wilderness suitability. As explained in Chapter I. B. 6, this may include the logical extension of grandfathered activities which began outside the boundary of a wilderness study area into an adjacent wilderness study area. Mining plans on pre-FLPMA non-producing coal leases, even leases on which pre-FLPMA exploration drilling has taken place, will not be recommended for approval by BLM if the proposed mining methods are by surface methods or if the impacts resulting from underground mining would impair the suitability of the area for preservation as wilderness.

b. **Preference Right Lease Applications.** The preference right lease applicant's right to adjudication of his right to a lease will be recognized. Application of the right, however, involves application of the coal unsuitability criteria, including the wilderness review criterion number 4, of 43 CFR 3461(d)(1) and the imposition of conditions in the proposed lease to prevent impairment of the area's suitability for preservation as wilderness.

The Secretary may initiate exchange proceedings for coal under 43 CFR 3430.5-4 if he determines that, among other things, the lands are unsuitable for coal mining because of wilderness considerations.

c. **New Competitive Leases.** The coal unsuitability criteria will be applied to all coal lands being considered in the BLM's planning system. The only BLM-administered lands that will be offered for competitive lease sale are those on which a final wilderness inventory decision has determined that the lands lack wilderness characteristics. Once the Congress has determined that a WSA will not be designated as wilderness, the area may be considered for competitive lease.

d. **Exploration Licenses.** Exploration licenses are issued for exploration of unleased Federal land. Unsuitability criteria will not be applied to exploration licenses. If the activities proposed under an exploration license would create impacts that do not satisfy the nonimpairment criteria, they would not be approved.

e. **Suspension of Lease Terms.** The lease suspension policy cited in section 1(d) above will apply to coal leases. One factor in the Secretary's decisions will be the diligent development requirement that must be met by the lessee.

3. **Oil Shale and Tar Sands Leasing.**

a. **Pre-FLPMA Leases.** There are no pre-FLPMA leases for tar sand and only four pre-FLPMA oil shale leases. All pre-FLPMA leases on which actual pre-FLPMA physical impacts have been created through such activities as exploration drilling, production, or construction of production-related facilities, may continue in the same manner and degree under the grandfather provisions as discussed in Chapter I. B. 6, even if these activities impair wilderness suitability. Any proposed activity which would exceed that manner and degree, as determined by BLM, would be allowed only if it satisfies the nonimpairment criteria.

Activities on pre-FLPMA leases on which no pre-FLPMA impacts have taken place will be allowed if they satisfy the nonimpairment criteria. If proposed activities are denied because they cannot meet the nonimpairment criteria, the lessee has the right to request a suspension of operation. The policy on lease suspension is explained more fully in section 1(d) above.

b. **New Leases Issued After the Implementation of FLPMA.** New leases may be issued provided the special stipulation (Appendix A) is attached. Activities may occur under these leases so long as the BLM determines that they satisfy the nonimpairment criteria.

c. **Suspension of Lease Terms.** The policy cited in section 1(d) above will apply.

4. **Other Leasable Minerals (Phosphate, Potash, Sodium, Sulphur, and Hardrock (Solid) Minerals on Acquired Lands, Including Uranium).**

a. **Pre-FLPMA Leases and Permits.** All pre-FLPMA leases on which actual pre-FLPMA physical impacts have been created through such activities as exploration drilling, production drilling, or construction of production-related facilities, may continue consistent with the grandfather provisions. As explained in Chapter I. B. 6, this may include logical extension of grandfathered activities which began outside the boundary of a wilderness study area into an adjacent wilderness study area. These activities will continue to be regulated to prevent unnecessary or undue degradation of the lands. Activities on pre-FLPMA leases on which no pre-FLPMA impacts have taken place will be allowed if the BLM determines that they satisfy the nonimpairment criteria.

b. **Prospecting Permits.** Prospecting permits may continue to be issued in wilderness study areas (or inventory units), subject to a stipulation that no preference right lease will be issued until or unless an environmental analysis (or environmental impact statement) is completed and it is demonstrated, on the basis of the environmental analysis and a mining plan submitted with the application for a preference right lease, that the minerals can be removed by mining methods that will not impair the area's suitability for preservation as wilderness. Each permit will also condition exploration operations by a stipulation to insure that the impact caused by the activities will not impair the area's wilderness suitability.

c. **Preference Right Lease Applications.** Existing rights to preference right leases will be recognized. However, conditions will be imposed in such leases to prevent impairment of the area's suitability for preservation as wilderness.

d. **Post-FLPMA Leases Issued Prior to the Issuance of the Interim Management Policy.** Regardless of the conditions and terms under which these leases were issued, there are no grandfathered uses inherent in post-FLPMA leases. Activities on post-FLPMA leases will be subject to the special wilderness protection stipulation as stated in Appendix A. If there is already production on any lease issued in this time frame it would be allowed to continue in the least impairing manner and so as to prevent unnecessary or undue degradation of the lands. Increases in production or in production facilities would not be allowed if the resultant impacts would further impair wilderness suitability.

e. **New Leases or Permits Issued After Implementation of FLPMA.** New leases and prospecting permits will be issued subject to the special wilderness protection stipulation (Appendix A). Activities that would impair wilderness suitability will not be allowed.

5. **Mining Operations Under the 1872 Mining Law.**

a. **Location, Prospecting, Exploration, and Mining.** Mining operations conducted on lands under wilderness review will be subject to the forthcoming regulations 43 CFR 3802. The regulations will not apply to areas where a final decision that the area lacks wilderness characteristics has been made through the BLM wilderness inventory process. These regulations will provide a procedure for notifying the BLM of activities being conducted or proposed to be conducted on mining claims and will also establish the standards for approval of the conduct of those operations, including reclamation.

The regulations have several purposes: (1) to prevent impairment of the wilderness suitability of areas under wilderness review; (2) to recognize valid existing rights; (3) to allow grandfathered activities to continue; (4) to allow continued location and operations under the mining laws; and (5) to prevent unnecessary or undue degradation of the lands.

b. **Valid Existing Rights.** All mining claimants who located claims on or before October 21, 1976, and are able to demonstrate a discovery as of that date, as required under the 1872 Mining Law, as amended (prudent man test — must show that the claim has a reasonable prospect of being mined at a profit), will be allowed to continue their mining operations to full development even if the operations are causing or will cause impairment. Before BLM will grant approval of such operations, the operator will be required to show evidence of such discovery. If warranted, BLM may verify data through a field examination and, if necessary, initiate contest proceedings.

Reasonable access to pre-FLPMA valid mining claims will also be granted. Such access shall be regulated to prevent or minimize impairment of the area's wilderness suitability, to the extent possible consistent with the enjoyment of the claimant's rights. Mineral patent applications on these pre-FLPMA valid claims will continue to be processed.

Whether or not the claims have a pre-FLPMA discovery determines only whether the nonimpairment standard applies. *All* operations will be regulated to prevent unnecessary or undue degradation of the lands until the claims are patented. (Any claim patented in the California Desert Conservation Area will continue to be regulated to prevent unnecessary or undue degradation.) All operations will be subject to the forthcoming regulations 43 CFR 3802, which will specify in what circumstances and in what manner notification will be required.

c. **Temporary Limitation on the Exercise of Valid Existing Rights.** If impairing activities are proposed on a pre-FLPMA claim with valid existing rights, within a wilderness study area (WSA) which the BLM Director has recommended to the Secretary as suitable for preservation as wilderness, the proposed impairing activity may be temporarily disapproved by the Director of the BLM. This is a narrow exception for extraordinary circumstances when the Secretary and the President may be expected to recommend the WSA as suitable for wilderness designation and Congress may be expected to act in a short period of time. Such a disapproval would be for one year, subject to renewal, but not to exceed a total of two years.

d. **Grandfathered Activities.** Owners of unpatented mining claims located on or before October 21, 1976, who cannot establish a valid existing right by demonstrating a "discovery" on the above date will be allowed to continue in the same manner and degree as on that date, even if this impairs wilderness suitability. (See grandfather provision in Chapter I. B. 6.) For pre-FLPMA claims which have neither valid existing rights nor grandfathered uses, further exploration work to "prove-up" a discovery will be allowed only if the BLM determines that the proposed operations satisfy the nonimpairment criteria.

e. **Assessment Work.** Assessment work will be permitted only if the BLM determines that it satisfies the nonimpairment criteria. However, assessment work on claims which qualify under valid existing rights or the grandfather concept may, in fact, impair.

f. **Deferment of Assessment Work.** If proposed assessment work would impair the area's suitability for preservation as wilderness, a deferment of annual assessment work, under 30 USC 28b, may be granted for a period not to exceed two years. At the end of that period, the mining claimant must find other ways of completing nonimpairing assessment work, such as the geological, geochemical, and geophysical work allowed by the Act of September 2, 1958 (30 USC 28-1).

g. **Mining Claims Located After October 21, 1976.** Lands under wilderness review will continue to be subject to location under the mining laws. Location methods and subsequent assessment work will be restricted to operations which the BLM determines satisfy the nonimpairment criteria. Work towards post-FLPMA discoveries may take place, but not to the extent that impairment is caused. If discoveries are made in a nonimpairing manner or claims located after October 21, 1976, patents may issue.

h. **Mining Activities in Areas Smaller Than 5,000 Acres.** If the wilderness study area (or inventory unit) is smaller than 5,000 acres, all mining activities under the 1872 Mining Law will be exempt from the nonimpairment standard, and will be regulated only to prevent unnecessary or undue degradation of the lands. (The basis for this guideline is explained in Chapter I. A. 6.)

6. **Disposal of Minerals Materials (Salable).** Sale and free use of mineral materials will be allowed so long as the operation can be conducted consistent with the nonimpairment criteria.

APPENDIX A

WILDERNESS PROTECTION STIPULATION

By accepting this lease, the lessee acknowledges that the lands contained in this lease are being inventoried or evaluated for their wilderness potential by the Bureau of Land Management (BLM) under section 603 of the Federal Land Policy and Management Act of 1976, 90 Stat. 2743 (43 USC Sec. 1782), and that exploration or production activities which are not in conformity with section 603 may never be permitted. Expenditures in leases on which exploration drilling or production are not allowed will create no additional rights in the lease, and such leases will expire in accordance with law.

Activities will be permitted under the lease so long as BLM determines they will not impair wilderness suitability. This will be the case either until the BLM wilderness inventory process has resulted in a final wilderness inventory decision that an area lacks wilderness characteristics, or in the case of a wilderness study area until Congress has decided not to designate the lands included within this lease as wilderness. Activities will be considered nonimpairing if the BLM determines that they meet each of the following three criteria:

(a) it is temporary. This means that the use or activity may continue until the time when it must be terminated in order to meet the reclamation requirement of paragraphs (b) and (c) below. A temporary use that creates no new surface disturbance may continue unless Congress designates the area as wilderness, so long as it can easily and immediately be terminated at that time, if necessary to management of the area as wilderness.

(b) Any temporary impacts caused by the activity must, at a minimum, be capable of being reclaimed to a condition of being substantially unnoticeable in the wilderness study area (or inventory unit) as a whole by the time the Secretary of the Interior is scheduled to send his recommendations on that area to the President, and the operator will be required to reclaim the impacts to that standard by that date. If the wilderness study is postponed, the reclamation deadline will be extended accordingly. If the wilderness study is accelerated, the reclamation deadline will not be changed. A full schedule of wilderness studies will be developed by the Department upon completion of the intensive wilderness inventory. In the meantime, in areas not yet scheduled for wilderness study, the reclamation will be scheduled for completion within 4 years after approval of the activity. (Obviously, if and when the Interim Management Policy ceases to apply to an inventory unit dropped from wilderness review following a final wilderness inventory decision of the BLM State Director, the reclamation deadline previously specified will cease to apply.) The Secretary's schedule for transmitting his recommendations to the President will not be changed as a result of any unexpected inability to complete the reclamation by the specified date, and such inability will not constrain the Secretary's recommendation with respect to the area's suitability or nonsuitability for preservation as wilderness.

The reclamation will, to the extent practicable, be done while the activity is in progress. Reclamation will include the complete recontouring of all cuts and fills to blend with the natural topography, the replacement of topsoil, and the restoration of plant cover at least to the point where natural succession is occurring. Plant cover will be restored by means of reseeding or replanting, using species previously occurring in the area. If necessary, irrigation will be required. The reclamation schedule will be based on conservative assumptions with regard to growing conditions, so as to ensure that the reclamation will be complete, and the impacts will be substantially unnoticeable in the area as a whole, by the time the Secretary is scheduled to send his recommendations to the President. ("Substantially unnoticeable" is defined in Appendix F of the *Interim Management Policy and Guidelines for Lands under Wilderness Review*.)

(c) When the activity is terminated, and after any needed reclamation is complete, the area's wilderness values must not have been degraded so far, compared with the area's values for other purposes, as to significantly constrain the Secretary's recommendation with respect to the area's suitability or nonsuitability for preservation as wilderness. The wilderness values to be considered are those mentioned in section 2(c) of the Wilderness Act, including naturalness, outstanding opportunities for solitude or for primitive and unconfined recreation, and ecological, geological or other features of scientific, educational, scenic, or historical value.

If all or any part of the area included within the leasehold estate is formally designated by Congress as wilderness, exploration and development operations taking place or to take place on that part of the lease will remain subject to the requirements of this stipulation, except as modified by the Act of Congress designating the land as wilderness. If Congress does not specify in such act how existing leases like this one will be managed, then the provisions of the Wilderness Act of 1964 will apply, as implemented by rules and regulations promulgated by the Department of the Interior.

APPENDIX B

THE FEDERAL LAND POLICY AND MANAGEMENT ACT OF 1976
(P.L. 94–579)

Bureau of Land Management Wilderness Study

Sec. 603. (a) Within fifteen years after the date of approval of this Act, the Secretary shall review those roadless areas of five thousand acres or more and roadless islands of the public lands, identified during the inventory required by section 201(a) of the Act as having wilderness characteristics described in the Wilderness Act of September 3, 1964 (78 Stat. 890; 16 U.S.C. 1131 et seq.) and shall from time to time report to the President his recommendation as to the suitability or nonsuitability of each such area or island for preservation as wilderness: Provided, that prior to any recommendations for the designation of an area as wilderness the Secretary shall cause mineral surveys to be conducted by the U.S. Geological Survey and the Bureau of Mines to determine the mineral values if any, that may be present in such areas: Provided further, that the Secretary shall report to the President by July 1, 1980, his recommendations on those areas which the Secretary has prior to November 1, 1975, formally identified as natural or primitive areas. The review required by this subsection shall be conducted in accordance with the procedures specified in section 3(d) of the Wilderness Act.

(b) The President shall advise the President of the Senate and the Speaker of the House of Representatives of his recommendations with respect to designation as wilderness of each such area, together with a map thereof and a definition of its boundaries. Such advice by the President shall be given within two years of the receipt of each report from the Secretary. A recommendation of the President for designation as wilderness shall become effective only if so provided by an Act of Congress.

(c) During the period of review of such areas and until Congress has determined otherwise, the Secretary shall continue to manage such lands according to his authority under this Act and other applicable law in a manner so as not to impair the suitability of such areas for preservation as wilderness, subject, however, to the continuation of existing mining and grazing uses and mineral leasing in the manner and degree in which the same was being conducted on the date of approval of this Act: Provided, that, in managing the public land the Secretary shall by regulation or otherwise take any action required to prevent unnecessary or undue degradation of the lands and their resources or to afford environmental protection. Unless previously withdrawn from appropriation under the mining laws, such lands shall continue to be subject to such appropriation during the period of review unless withdrawn by the Secretary under the procedures of section 204 of this Act for reasons other than preservation of their wilderness character. Once an area has been designated for preservation as wilderness, the provisions of the Wilderness Act which apply to national forest wilderness areas shall apply with respect to the administration and use of such designated area, including mineral surveys required by section 4(d)(2) of the Wilderness Act, and mineral development, access, exchange of lands, and ingress and egress for mining claimants.

APPENDIX C

SECTION 2(c) OF
THE WILDERNESS ACT OF
SEPTEMBER 3, 1964
(P.L. 88–577)

A wilderness, in contrast with those areas where man and his own works dominate the landscape, is hereby recognized as an area where the earth and its community of life are untrammeled by man, where man himself is a visitor who does not remain. An area of wilderness is further defined to mean in this Act an area of undeveloped Federal land retaining its primeval character and influence, without permanent improvements or human habitation, which is protected and managed so as to preserve its natural conditions and which (1) generally appears to have been affected primarily by the forces of nature, with the imprint of man's work substantially unnoticeable; (2) has outstanding opportunities for solitude or a primitive and unconfined type of recreation; (3) has at least five thousand acres of land or is of sufficient size as to make practicable its preservation and use in an unimpaired condition; and (4) may also contain ecological, geological, or other features of scientific, educational, scenic, or historical value.

APPENDIX D

AUTHORITY AND REGULATIONS

1. AUTHORITY

The Interim Management Policy is based on the following authorities:

- — The Federal Land Policy and Management Act of 1976 (Public Law 94–579, 90 Stat. 2743, 43 USC 1701), sections 603, 302, 201, and 701, as modified by other applicable provisions of that Act and by other laws. (See Appendix B for the text of section 603.)
- — The Wilderness Act of 1964 (Public Law 88–577, 78 Stat. 890, 16 USC 1131). (See Appendix C for the text of section 2(c).)

2. REGULATIONS

Requirements of the Interim Management Policy will be considered by the BLM, to the extent necessary, as part of its decisionmaking process in considering approval of any activity on the public lands pursuant to existing or new regulations.

Most of the policies in this document can and will be implemented through existing regulations covering specific activities. However, some of the policies will be implemented through the promulgation of new regulations — either proposed regulations that are now in preparation, or revisions to existing regulations.

One rulemaking now in progress concerns mining activities on lands under wilderness review:

- — Exploration and Mining — Wilderness Review Program (43 CFR 3802). These regulations pertain only to locatable minerals under the 1872 Mining Law. (See Chapter III. J. 5(a) of this document.)

Two other proposed rulemakings in preparation concern mineral leasing and mining activities on all BLM-administered lands and will reflect the Interim Management Policy:

- — Geophysical Exploration — Oil and Gas (43 CFR 3045).
- — Surface Management of Mining Claims (43 CFR 3809). When these regulations are promulgated, they will incorporate the regulations (43 CFR 3802) for exploration and mining on lands under wilderness review.

The interim management requirements are already reflected in general terms in the following regulations, which are now in effect:

- — Federal Lands Review — Unsuitability for Mining (43 CFR 3461). This covers coal mining on public lands.
- — Off-Road Vehicles (43 CFR 8340).

Changes in existing regulations will also be proposed wherever this is found necessary to implement the Interim Management Policy.

APPENDIX E

THE WILDERNESS REVIEW PROGRAM

To carry out the mandate of section 603 of FLPMA, the Bureau of Land Management has developed a comprehensive wilderness review program. Key elements of the overall program include:

1. **Wilderness Review.** The wilderness review process has three phases: inventory, study, and reporting to Congress. Public involvement is encouraged in all phases of the process, with opportunity provided for comment, participation, and review. The wilderness review applies to all public lands administered by the BLM except:

- — Lands where the United States owns the minerals but the surface is not Federally owned.
- — Lands being held for the benefit of Indians, Aleuts, and Eskimos.
- — Lands tentatively approved for State selection in Alaska.
- — Lands on the Outer Continental Shelf.
- — Oregon and California grant (O & C) lands that are managed for commercial timber production.

The phases of the wilderness review process are as follows:

a. **Inventory.** First, BLM does an inventory of the public lands to identify areas that meet the definition of wilderness established by Congress. Such areas are identified as wilderness study areas (WSA's). The procedures for this inventory are described in the *Wilderness Inventory Handbook*. The inventory is scheduled for completion in the contiguous Western States in 1980.

b. **Study.** Each WSA must be studied through the BLM land-use planning system to analyze all values, resources, and uses within the WSA. The findings of the study determine whether the area will be recommended as suitable or nonsuitable for designation as wilderness.

c. **Reporting.** When the study has been completed, a recommendation as to whether the WSA is suitable or nonsuitable for designation as wilderness is submitted through the Secretary of the Interior and the President to Congress. A mineral survey by the U.S. Geological Survey and Bureau of Mines will accompany every "suitable" recommendation. Reports on all WSA's must reach the President no later than October 21, 1991, and reach Congress by October 21, 1993. Only Congress can designate an area as wilderness.

2. **Instant Study Areas.** FLPMA also requires that by July 1, 1980, the Secretary of the Interior must submit recommendations to the President on the wilderness suitability of 55 public land areas that were formally identified as "natural" or "primitive" areas prior to November 1, 1975. These are known as "instant study areas" because Congress directed study and reporting on these areas, without awaiting completion of the wilderness inventory.

3. **Management of Areas under Wilderness Review.** This is the interim Management Policy which is the subject of this document. It establishes the guidelines for determining uses and activities that may occur in areas under wilderness review. It applies until Congress takes action on the President's recommendations.

APPENDIX F

DEFINITIONS

Some of the terms used in this document have specific meanings and are defined as follows:

Cross-country: Refers to travel that is not on existing access routes (ways and trails) and does not involve any surface disturbance other than that caused solely by the passage of vehicles.

Cumulative Impact: The aggregate impact of existing and proposed activities. Individual intrusions when considered by themselves may not impair wilderness suitability; however, when combined with other existing and proposed substantially unnoticeable impacts, the total effect may be sufficient to impair an area's suitability for preservation as wilderness.

FLPMA: The Federal Land Policy and Management Act of 1976 (Public Law 94–579, 90 Stat. 2743, 43 USC 1701).

Impact: The effect, influence, alteration, or imprint of an activity.

Impair: To diminish in value or excellence.

Impair Wilderness Suitability: Refers to activities that are considered to impair an area's suitability for preservation as wilderness — i.e., that do not satisfy the "nonimpairment criteria" set forth in Chapter I. B. 2 of this document.

Instant Study Area: One of the 55 primitive and natural areas formally identified by BLM through a final action published in the *Federal Register* before November 1, 1975. FLPMA requires an accelerated wilderness review of these areas.

Multiple Use: "...the management of the public lands and their various resource values so that they are utilized in the combination that will best meet the present and future needs of the American people; making the most judicious use of the land for some or all of these resources or related services over areas large enough to provide sufficient latitude for periodic adjustments in use to conform to changing needs and conditions; the use of some land for less than all of the resources; a combination of balanced and diverse resource uses that takes into account the long-term needs of future generations for renewable and nonrenewable resources, including, but not limited to, recreation, range, timber, minerals, watershed, wildlife and fish, and natural scenic, scientific and historical values; and harmonious and coordinated management of the various resources without permanent impairment of the productivity of the land and the quality of the environment with consideration being given to the relative values of the resources and not necessarily to the combination of uses that will give the greatest economic return or the greatest unit output." (From section 103, FLPMA).

Pre-FLPMA: Before October 21, 1976, the date of approval of the Federal Land Policy and Management Act.

Primitive and Unconfined Recreation: Nonmotorized and nondeveloped types of outdoor recreational activities.

Public Lands: For the purpose of the wilderness review program, any lands and interest in lands owned by the United States within the several States and administered by the Secretary of the Interior through the Bureau of Land Management, without regard to how the United States acquired ownership, except:

1. Lands where the United States owns the minerals but the surface is not Federally owned.

2. Lands being held for the benefit of Indians, Aleuts, and Eskimos.

3. Lands tentatively approved for State selection in Alaska.

4. Lands on the Outer Continental Shelf.

5. Oregon and California grant (O & C) lands that are managed for commercial timber production.

Roadless: For the purpose of the wilderness review program, this refers to the absence of roads which have been improved and maintained by mechanical means to ensure relatively regular and continuous use. A way maintained solely by the passage of vehicles does not constitute a road.

Words and phrases used in the above definition of "roadless" are defined as follows:

1. Improved and maintained: Actions taken physically by man to keep the road open to vehicular traffic. "Improved" does not necessarily mean formal construction. "Maintained" does not necessarily mean annual maintenance.

2. Mechanical means: Use of hand or power machinery or tools.

3. Relatively regular and continuous use: Vehicular use which has occurred and will continue to occur on a relatively regular basis. Examples are: Access roads for equipment to maintain a stock water tank or other established water sources; access roads to maintained recreation sites or facilities; or access roads to mining claims.

Solitude: 1. The state of being alone or remote from habitations; isolation. 2. A lonely, unfrequented, or secluded place.

Substantially Unnoticeable: Refers to something that either is so insignificant as to be only a very minor feature of the overall area or is not distinctly recognizable by the average visitor as being manmade or man-caused because of age, weathering, or biological change. An example of the first would be a few minor dams or abandoned mine buildings that are widely scattered over a large area, so that they are an inconspicuous part of the scene. Serious intrusions of this kind, or many of them, may preclude inclusion of the land in a wilderness study area. (See also "Cumulative Impact," above.) An example of the second would be an old juniper control project that has grown up to a natural appearance, the old fallen trees largely decomposed.

Unnecessary or Undue Degradation: Impacts greater than those that would normally be expected from an activity being accomplished in compliance with current standards and regulations and based on sound practices, including use of the best reasonably available technology.

Wilderness: The definition contained in section 2(c) of the Wilderness Act of 1964 (78 Stat. 891). (See Appendix C for its full text.)

Wilderness Area: An area formally designated by Congress as part of the National Wilderness Preservation System.

Wilderness Characteristics: The definition contained in section 2(c) of the Wilderness Act of 1964 (78 Stat. 891). (See Appendix C for its full text.)

Wilderness Inventory: An evaluation of the public lands in the form of a written description and map showing those lands that meet the wilderness criteria as established under section 603(a) of FLPMA and section 2(c) of the Wilderness Act, which will be referred to as wilderness study areas (WSA's). (See *Wilderness Inventory Handbook*, dated September 27, 1978.)

Wilderness Review Program: The term used to cover the entire process of wilderness inventory, study, and reporting for the wilderness resource, culminating in recommendations submitted through the Secretary of the Interior and the President to Congress as to the suitability or nonsuitability of each wilderness study area for inclusion in the National Wilderness Preservation System. (For a summary of the program, see Appendix E.)

Wilderness Study Area (WSA): A roadless area or island that has been inventoried and found to have wilderness characteristics as described in section 603 of FLPMA and section 2(c) of the Wilderness Act of 1964 (78 Stat. 891).

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APPENDIX 2

WILDERNESS MANAGEMENT POLICY

WILDERNESS MANAGEMENT POLICY

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Chapter I. Introduction

I. A. The Purpose of This Document

The purpose of this document is to describe how the Bureau of Land Management (BLM) will manage lands administered by the BLM which are designated by Congress as part of the National Wilderness Preservation System. At present, the Bureau of Land Management administers no wilderness areas. The Bureau has developed a Wilderness Management Policy at this time for the following reasons: (1) to inform BLM field officials, Congress, and the public as to how BLM will manage wilderness areas, so this can be taken into account during BLM wilderness studies and during deliberations on wilderness recommendations affecting BLM public lands, and (2) to provide guidance for BLM personnel to use in managing future BLM wilderness areas at such time as Congress designates them.

The BLM's Wilderness Management Policy will apply to public lands administered by BLM that have been specifically designated as wilderness by an Act of Congress. The Wilderness Management Policy has a different purpose than BLM's *Interim Management Policy and Guidelines for Lands under Wilderness Review*. The *Interim* Management Policy is an interim measure governing lands under wilderness review. The Wilderness Management Policy governs lands designated by Congress as wilderness. (Appendix C of this document summarizes BLM's wilderness review process.) If Congress designates a wilderness study area as wilderness, the Interim Management Policy ceases to apply, and *instead* the Wilderness Management Policy applies thereafter. If Congress decides that a particular wilderness study area will *not* be designated as wilderness, the Interim Management Policy ceases to apply, and the area is managed for the uses and activities indicated in the pertinent BLM planning documents for the area.

This policy document does not apply to BLM-administered public lands in Alaska. If public lands in Alaska are designated as wilderness in the future, they will be managed under applicable provisions of the Wilderness Act of 1964 and in accordance with additional congressional guidance in the Alaska National Interest Lands Conservation Act of 1980 (ANILCA). The ANILCA recognized special conditions in Alaska in connection with such activities as subsistence uses, access and transportation.

I. B. Mandate from Congress

The BLM wilderness review program stems from Section 603 of the Federal Land Policy and Management Act of 1976 (FLPMA). In FLPMA, Congress gave BLM its first unified, comprehensive mandate on how the public lands should be managed. The law establishes a policy of generally retaining the public lands in Federal ownership, and it directs the BLM to manage them under principles of multiple use and sustained yield. The BLM is to prepare an inventory of the public lands and their resources, including identification of areas having wilderness characteristics. Management decisions for the public lands are to be made through a land-use planning process that considers all potential uses of each land area. All public lands are to be managed so as to

prevent unnecessary or undue degradation of the lands.

Under FLPMA, wilderness preservation is part of BLM's multiple-use mandate, and wilderness values are recognized as part of the spectrum of resource values and uses to be considered in the inventory and in the land-use planning process. Section 603 of FLPMA specifically directs the BLM, for the first time, to carry out a wilderness review of the public lands. (The complete text of section 603 appears in Appendix A of this document. The BLM's wilderness review process implementing section 603 is summarized in Appendix C.)

Section 603(c) of FLPMA tells the BLM how to manage public lands designated as wilderness, in these words:

> "Once an area has been designated for preservation as wilderness, the provisions of the Wilderness Act which apply to national forest wilderness areas shall apply with respect to the administration and use of such designated area, including mineral surveys required by section 4(d)(2) of the Wilderness Act, and mineral development, access, exchange of lands, and ingress and egress for mining claimants and occupants."

The Wilderness Act of 1964 contains a number of provisions addressing the administration and use of national forest wilderness areas. Those most pertinent to BLM wilderness management are cited in the following paragraphs. Section 2(a) says:

> "...it is hereby declared to be the policy of the Congress to secure for the American people of present and future generations the benefits of an enduring resource of wilderness. For this purpose there is hereby established a National Wilderness Preservation System to be composed of federally owned areas designated by Congress as 'wilderness areas', and these shall be administered for the use and enjoyment of the American people in such manner as will leave them unimpaired for future use and enjoyment as wilderness, and so as to provide for the protection of these areas, the preservation of their wilderness character, and for the gathering and dissemination of information regarding their use and enjoyment as wilderness...."

Section 4 of the Wilderness Act is devoted to the use of wilderness areas. Section 4(b) says:

> "Except as otherwise provided in this Act, each agency administering any area designated as wilderness shall be responsible for preserving the wilderness character of the area and shall so administer such area for such other purposes for which it may have been established as also to preserve its wilderness character. Except as otherwise provided in this Act, wilderness areas shall be devoted to the public purposes of recreational, scenic, scientific, educational, conservation, and historical use."

Section 4(c) prohibits certain activities, in these words:

> "Except as specifically provided for in this Act, and subject to existing private rights, there shall be no commercial enterprise and no permanent road within any wilderness area designated by this Act and, except as necessary to meet minimum requirements for the administration of the area for the purpose of this Act (including measures required in emergencies involving the health and safety of persons within the area), there shall be no temporary road, no use of motor vehicles, motorized equipment or motorboats, no landing of aircraft, no other form of mechanical transport, and no structure or installation within any such area."

Sections 4(c), 4(d), and 5 provide special exceptions to the prohibitions in section 4(c) by providing for the following activities:

- — existing private rights.
- — measures required in emergencies involving the health and safety of persons within the area.
- — activities and structures that are the minimum necessary for the administration of the area as wilderness.
- — use of aircraft and motorboats, where already established, may be permitted to continue.
- — measures necessary in the control of fire, insects, and diseases.
- — any activity, including prospecting, for the purpose of gathering information about mineral or other resources, if carried on in a manner compatible with the preservation of the wilderness environment. (This includes mineral surveys conducted on a planned, recurring basis by the Geological Survey and Bureau of Mines.)
- — continued application of the U.S. mining and mineral leasing laws until December 31, 1983.
- — water resource developments may be authorized by the President where he determines that such use will better serve the interests of the United States and the people thereof than will its denial.
- — livestock grazing, where already established, shall be permitted to continue.
- — commercial services necessary for activities which are proper for realizing the recreational or other wilderness purposes of the areas.
- — adequate access to surrounded State-owned and privately-owned lands, or such lands shall be exchanged for Federally-owned land.
- — ingress and egress to surrounded valid mining claims and other valid occupancies.

Section 5(c) provides land acquisition authority, in these words:

> "Subject to the appropriation of funds by Congress, the Secretary of Agriculture is authorized

> to acquire privately owned land within the perimeter of any area designated by this Act as Wilderness if (1) the owner concurs in such acquisition or (2) the acquisition is specifically authorized by Congress."

In addition to the basic management authority in the Wilderness Act, management provisions may appear in the legislation establishing each wilderness area. Standard provisions included in most wilderness legislation make clear that the effective date of the new law will apply wherever the Wilderness Act's management provisions mentioned the effective date of the Wilderness Act, and, for areas administered by the Department of the Interior, make clear that the Secretary of the Interior will continue to administer the areas.

In some cases, special provisions have been incorporated into the legislation (e.g., special mining area in the River of No Return Wilderness in Idaho). These provisions override the general management provisions of the Wilderness Act and must be regarded as specific direction for management of the area in question.

Congress has subsequently commented on wilderness management in House and Senate committee reports and conference reports accompanying wilderness legislation. These reports are part of the legislative history of the laws they accompany and can be helpful in determining the intent of Congress where the language in the law itself is unclear. Although reports on wilderness laws passed after 1964 do not become part of the legislative history of the Wilderness Act, they nonetheless indicate the interpretation given to the Wilderness Act by the congressional committees during their consideration of the subsequent legislation. Such report language addresses a variety of subjects. For example, guidelines for administering grazing use in wilderness areas appear in the Conference Report (House Report 96-1126) on the Central Idaho Wilderness Act of 1980 (P.L. 96-312). House Report 95-540 on the Endangered American Wilderness Act of 1978 discusses the interpretation of the Wilderness Act as it relates to such uses and activities as: hunting and fishing; trails, bridges, and trail signs; control of fire, insects, and diseases; cabins and sanitary facilities; shelters and campsite facilities; and weather modification and special equipment.

The provisions of FLPMA, the Wilderness Act, and future Acts of Congress designating specific BLM areas as wilderness are BLM's mandates on the management of wilderness areas. All activities in wilderness areas must be carried out in conformance with these mandates.

I. C. Meaning of the Congressional Mandate

The congressional mandate contains three basic concepts which form the basis for BLM's Wilderness Management Policy.

— *Wilderness Preservation Concept:*

Congress has directed the BLM to perpetuate the wilderness resource by managing designated wilderness areas so that their wilderness character is preserved unimpaired.

— *Wilderness Use Concept:*

Congress has directed the BLM to provide opportunities for the public to use designated wilderness areas for recreational, scenic, scientific, educational, conservation, and historical purposes in a manner so as to leave the wilderness area unimpaired for future use and enjoyment as wilderness.

— *Nonconforming Use Concept:*

Congress has directed the BLM to accommodate in wilderness areas certain activities, existing uses, and private rights which are generally nonconforming to wilderness preservation and wilderness use.

The meaning of each of these concepts is discussed below.

1. Wilderness Preservation Concept
The Wilderness Act directs that wilderness areas be managed to provide for their protection, the preservation of their natural conditions, and the preservation of their wilderness character. The factors which make up an area's wilderness character are spelled out in the Wilderness Act's definition of wilderness (section 2(c)). These factors are referred to in FLPMA collectively as "wilderness characteristics," and they fall into three broad categories:

a. Naturalness—A wilderness area "generally appears to have been affected primarily by the forces of nature, with the imprint of man's work substantially unnoticeable." Wilderness areas must be managed to ensure that this description remains accurate.

b. Outstanding Opportunities for Solitude or a Primitive and Unconfined Type of Recreation—A wilderness area "has outstanding opportunities for solitude or a primitive and unconfined type of recreation." Solitude is defined as (1) the state of being alone or remote from habitations; isolation; (2) a lonely, unfrequented or secluded place. The emphasis is on the opportunities a person has to avoid the sights, sounds, and evidence of other people within a particular area. Primitive and unconfined types of recreation are defined as those activities that provide dispersed, undeveloped recreation which do not require facilities or motorized equipment. In most cases, opportunities for solitude and primitive recreation go hand-in-hand, and both are dependent on naturalness. Wilderness areas must be managed to ensure that these opportunities are not degraded.

c. Special Features—Congress specified that wilderness areas "may also contain ecological, geological, or other features of scientific, educational, scenic, or historical value." These are optional wilderness characteristics; an area may meet the Wilderness Act's definition of wilderness without having these special features, but they are usually present in wilderness areas, and in some cases they may be a prime reason for wilderness designation. Also, these features contribute to an area's opportunities for primitive recreation. Wilderness areas must be managed to ensure that these opportunities are not degraded.

In order to preserve these wilderness characteristics as Congress directed, the management of BLM-administered wilderness must be based on a *principle of nondegradation*. Under this principle, the central thrust of BLM wilderness management is to prevent degradation of natural conditions, opportunities for solitude or primitive recreation and special features.

It is recognized that there is often variation in the level of naturalness, solitude, types of primitive recreation, and special features, present within a wilderness—or between different wilderness areas. Also, different lands have different capabilities to sustain types and amounts of use. The principle of nondegradation means that wilderness areas will be managed to provide for the protection and perpetuation of the values of the wilderness resource and prevent deterioration caused by other resource activities or by visitor use, and, when necessary, to restore deteriorated sites to an acceptable condition.

Most uses will result in some changes in the condition of the wilderness resource. Some uses cause little or no change, while others have the potential for serious change. Therefore, it is necessary to define limits of acceptable change. This must be established using the conditions *generally* prevailing in each wilderness at the time of congressional designation as a benchmark unless there is unacceptable biological, physical, or social degradation present. This does not mean that existing human-caused impacts in some areas will set a standard, or a sort of "lowest common denominator", which other more natural areas will be allowed to reach. Managers must determine what human-caused changes can be allowed without causing degradation and what measures can be taken to bring situations below the limit of acceptable change back to an acceptable level. This may influence the ways in which recreational, scenic, scientific, educational, conservation, and historical uses, as well as nonconforming uses, are done in the area, so their impact on the wilderness resource can be kept within the limits of acceptable change.

In the case of some of the nonconforming uses, such as mining, provided for by Congress in the Wilderness Act and subsequent legislation, the condition of the wilderness resource may be degraded as a result of an allowed use. However, in such cases, the principle of nondegradation and the limits of acceptable change should be used as an analysis tool for the reasonable mitigation of impacts, consistent with the applicant's conduct of the allowed use, and as a standard for determining the condition to which the area will be returned where and when rehabilitation is appropriate.

In this document, the principle of nondegradation is reflected in the policies and guidelines for specific activities.

Two equivalent terms used many times in this document reflect the wilderness preservation concept—"preservation of wilderness character" and "protection of the wilderness resource."

2. Wilderness Use Concept
Section 4(b) of the Wilderness Act provides fundamental guidance on how wilderness areas shall be used, in these words:

> "Except as otherwise provided in this Act, each agency administering any area designated as wilderness shall be responsible for preserving the wilderness character of the area and shall so administer such area for such other purposes for which it may have been established as also to preserve its wilderness character. Except as otherwise provided in this Act, wilderness areas shall be devoted to the public purposes of recreational, scenic, scientific, educational, conservation, and historical use."

Wilderness areas are thus open to use and provide a variety of benefits to society. Use might be "on-site," taking direct advantage of the multiple resources of the area. Or the use and benefits may be derived "off-site," such as through enjoyment of the scenery at a distance from a nearby highway, through indirect benefits from the area's resources (i.e., water quality, wildlife, etc.), or just the knowledge that the area exists.

There is a limit to the extent to which such uses as recreation and education may take place within wilderness, because the Wilderness Act also says that they must occur in a manner so as to leave the wilderness unimpaired for future use and enjoyment as wilderness. Provision may be made for recreational, scenic, scientific, educational, conservation, and historical use of wilderness areas in ways that do not jeopardize the conditions of naturalness, the opportunities for solitude or a primitive and unconfined type of recreation, or the special features that existed at the time an area was designated as wilderness by Congress. All public use will be administered to ensure that the wilderness resource is kept unimpaired.

Public use for recreation purposes is generally a prevalent use of wilderness. However, the Wilderness Act makes it clear that recreation is only one of the purposes of the National Wilderness Preservation System. Sometimes there are places within wilderness where particularly sensitive values—such as colonial bird nesting sites—may dictate that recreation activities be restricted or entirely excluded.

Use capacity (recreational, historic, educational, etc.), based on social and ecological elements, will be established for each wilderness area, and will be considered in determining how much use to allow.

A second factor which may limit the use of wilderness has to do with the nonconforming use provisions of the Wilderness Act and subsequent legislation. In portions of a wilderness area where nonconforming activities such as mining and grazing are permitted, there may be instances when the public purposes listed in section 4(b) may be displaced either temporarily or permanently.

3. Nonconforming But Accepted Use Concept
Congress specially provided for certain activities and existing uses which otherwise would have been prohibited in wilderness areas under the general management provisions of sections 2(a), 4(b) and 4(c). For a complete list of these nonconforming but accepted activities, refer to section I.B.; generally they are: existing private rights; aircraft and motorboats; control of fire, insects, and diseases; gathering of resource information; mining; grazing; water resource development; commercial recreation services; and access to non-Federal inholdings.

The FLPMA directs that all uses of the public lands be conducted so as to prevent unnecessary or undue degradation of the lands. In wilderness areas, this means that the BLM must manage the nonconforming but accepted uses described above so as to prevent unnecessary or undue degradation of the area's wilderness character. As on nonwilderness public lands, some of the nonconforming but accepted uses may be restricted or entirely excluded where particularly sensitive resource values occur or where the public interest would be better served by restricting or excluding them.

Chapter II. Management Policy for BLM-Administered Wilderness

The policy guidance in this chapter is followed in Chapter III by guidelines for specific activities, based on these policies and on their interaction with other applicable policies for the management of public lands. No policy document can address every potential situation. Managers must use their best judgment in applying these policies and guidelines to particular situations. In cases not covered by specific guidance, managers will resolve questions by testing alternative courses of action against the policies in this chapter to arrive at the alternative that is most consistent with the policy as a whole.

Uses and values will vary between wilderness areas and frequently vary among different parts of an individual wilderness. There may be wide differences in terrain and other geographic characteristics, climate, vegetation, and wildlife. Historical patterns of use, local customs, and the traditional attitudes of visitors also differ between and within wilderness areas. Consequently, activities that are accepted and management practices that are necessary and appropriate on one wilderness may be either unnecessary or unacceptable on others. While this may require some flexibility in the management and administration of the individual units of wilderness, all are part of one National Wilderness Preservation System and shall be consistently managed within the intent of the Wilderness Act.

This policy document prescribes the general objectives, policies, and specific activity guidance applicable to all BLM wilderness areas. Specific management objectives, requirements, and decisions implementing administrative practices and visitor activities in individual wilderness areas are developed and described in the wilderness management plan for each unit.

II. A. General Policy

1. The Department of the Interior's policy is to manage wilderness areas under the administration of the Bureau of Land Management so as to preserve their wilderness character, and to manage them for the use and enjoyment of the American people in a manner that will leave them unimpaired for future use and enjoyment as wilderness. The wilderness areas will be devoted to the public purposes of recreational, scenic, scientific, educational, conservation, and historical use.

2. The Department's policy is to allow the nonconforming but accepted uses specifically permitted in wilderness areas by the Wilderness Act and subsequent laws in a manner that will prevent unnecessary or undue degradation of the area's wilderness character.

3. The Department's policy is to manage BLM wilderness areas consistent with the policies above so as to augment multiple use management of adjacent and nearby lands through protection of watersheds and water yield, wildlife habitat, natural plant communities, and similar natural values.

II. B. Specific Policy Guidance

1. **Preservation of Wilderness Character.** BLM wilderness areas will be managed so as to be affected primarily by the forces of nature, with the imprint of human work substantially unnoticeable; so as to maintain the area's outstanding opportunities for solitude or primitive and unconfined recreation; and so as to protect any ecological, geological, or other features of scientific, educational, scenic, or historical value which the area may contain.

a. **Naturalness.** BLM will foster a natural distribution of native species of wildlife, fish, and plants by ensuring that natural ecosystems and ecological processes continue to function naturally. The BLM will minimize human influence on wildlife populations and work to prevent the extinction by human causes of plants and animals found in the areas. Hunting, fishing, and trapping will continue as authorized by State law, when carried out in a manner consistent with preservation of an area's wilderness character.

The BLM will allow fire, insects, and diseases to play a natural role in the wilderness ecosystem, except where these activities threaten human life, property, or high value resources on adjacent nonwilderness lands, or where these would result in unacceptable change to the wilderness resource. (The guidelines in Chapter III will indicate some types of unacceptable change.)

The BLM will keep watersheds, water bodies, water quality, and soils in a natural condition and will allow associated ecological processes previously altered by human influences to return to their natural condition.

The limits of acceptable change will be defined in the wilderness management plan for each wilderness area, and the BLM will endeavor to restore those sites which have dropped below this level.

b. **Solitude.** BLM will maintain and enhance the area's outstanding opportunities for solitude by providing natural settings with few reminders of human activity or civilization and by providing opportunities for relatively few contacts with other visitors.

c. **Special Features.** BLM will maintain unimpaired the ecological, geological, and other features of scientific, educational, scenic, or historical value found in BLM wilderness areas.

2. Prohibition of Certain Uses
Except where subject to existing private rights, where necessary to meet minimum requirements for the administration of the wilderness area for the purposes of the Act or as specifically provided for elsewhere in these policies, there shall be no temporary road, no use of motor vehicles, motorized equipment, or motor boats, no landing of aircraft, no other form of mechanical transport and no structure or installation within wilderness areas. There shall be no commercial enterprise or permanent road, except where subject to existing private rights or as specifically provided for in this policy.

3. Minimum Tool
Tools, equipment, or structures may be used for managment when they are the minimum necessary for protection of the wilderness resource or when necessary in emergency situations for the health and safety of the visitor. Management will use the minimum tool, equipment, or structure necessary to successfully, safely, and economically accomplish the objective. The chosen tool, equipment, or structure should be the one that least degrades wilderness values temporarily or permanently.

For the purpose of the above paragraph, accepted tools, equipment, and structures may include but are not limited to: fire towers, patrol cabins, pit toilets, temporary roads, spraying equipment, hand tools, fire-fighting equipment caches, fencing, and controlled burning. In special or emergency cases involving the health and safety of wilderness visitors, or the protection of wilderness values, aircraft, motorboats, and motorized vehicles may be used.

4. **Visitor Use.** BLM wilderness areas will be managed to provide for their use and enjoyment in ways that are consistent with preservation of their wilderness character and that will leave them unimpaired for future use and enjoyment as wilderness.

Visitor use may be related to any of the following public purposes: recreation, scenic, scientific, educational, conservation, and historical use.

Visitor use facilities may be installed if they are the minimum necessary for the health and safety of wilderness visitors, or for the protection of the wilderness resource. (See also "minimum tool," in section B.3. above.) Facilities that are solely for the convenience of the visitor are not compatible with preservation of wilderness character and therefore will not be provided in wilderness areas.

The use capacity of the wilderness area will be determined, and will be used by managers to anticipate and avert degradation of the area's wilderness character and as a basis for mitigating the impacts caused by various uses.

If visitor use threatens to impair the area's wilderness character, managers will take action to prevent impairment. Indirect methods of reducing visitors' impact, such as trail design, information, and education, will be preferred over direct (regulatory) methods, such as limits on party size, length of stay, or number of parties. In case of conflict between visitor uses that depend upon a wilderness setting and those that do not, the uses dependent upon a wilderness setting will be favored.

Visitor use in wilderness involves certain risks to the visitor as a consequence of isolation from the conveniences of a technological world. The visitor must accept these risks in entering a wilderness area. In emergencies involving the health and safety of persons within the area, managers will take appropriate measures, such as search and rescue operations.

5. Nonconforming Uses.

a. **Valid Existing Rights.** Private rights existing as of the date an area was designated as wilderness will be recognized. In some cases, such rights may involve activities addressed elsewhere in this document under standards prescribed by the Wilderness Act. (One example of this is valid mining claims, addressed in section (h).) Valid existing rights in situations not covered by these policies will be considered by the BLM on a case-by-case basis, in consultation with the Regional Solicitor, to determine the nature of the rights and the extent to which the BLM must regulate the exercise of those rights pursuant to the Wilderness Act and other laws.

b. **Aircraft and Motorboats.** Use of aircraft or motorboats may be permitted to continue in wilderness areas where such uses were established prior to the date the area entered the National Wilderness Preservation System. Such use, when permitted to continue, will be monitored on a regular basis to determine if its continuation is appropriate. Use may be regulated or discontinued as necessary to protect resources in the area or to preserve the area's wilderness character.

c. **Control of Fires, Insects, and Diseases.** Where fire, insects and diseases threaten human life, property, or high value resources on adjacent nonwilderness lands, or where they would cause unacceptable change to the wilderness resource, measures may be taken as necessary to control them. Allowable actions will be specified in the wilderness management plan for each wilderness area.

d. **Gathering Information About Resources.** Any activity, including mineral prospecting, for the purpose of gathering information about natural resources in wilderness, will be permitted provided it is carried on in a manner compatible with the preservation of the wilderness resource. (This section does not affect mineral prospecting activities conducted under the mining laws, which are covered in section (h) below. The Wilderness Act provides for these activities in wilderness areas until midnight December 31, 1983.)

(1) No form of overland mechanical transport may be used in connection with prospecting for minerals or any activity for the purpose of gathering information about individual resources, unless approved by the BLM in accordance with the regulations 43 CFR 2920 - Leases, Permits, and Easements (effective April 15, 1981) (published in 46 FR 5772).

(2) Any person desiring to use motor vehicles, motorized equipment, mechanized transport, or to land aircraft, for mineral prospecting or for gathering information about resources is required to notify the BLM in writing. Approval documents will assure activities are conducted in a manner compatible with the preservation of the wilderness resource. No degradation of wilderness resources or values will be allowed. Restoration of disturbed areas is required and must take place as soon as possible once activities terminate. Performance bonds may be required.

e. **Proposed Water Resource Facilities.** If the President authorizes new water resource facilities or activities, pursuant to section 4(d)(4)(1) of the Wilderness Act, the BLM will manage those authorized operations to prevent unnecessary or undue degradation of the area's wilderness character. (Existing water resource facilities are discussed in (f) below, and water facilities for livestock grazing are discussed in (g) below.)

f. **Existing Water Resource Facilities.** Some wilderness areas may contain minor water resource facilities that were found to be substantially unnoticeable in the area. If such structures are present and were explicitly recognized by Congress as being acceptable in a specific wilderness, they may be operated and maintained to keep them in an effective, usable condition. Maintenance may not change the location, size, or type of the facility, or increase the storage capacity of a reservoir.

g. **Livestock Grazing.** Grazing of livestock, where established prior to the effective date of the Act designating the area as wilderness, shall be permitted to continue subject to this policy and the BLM grazing regulations 43 CFR 4100. Existing grazing may include not only the utilization of the forage resource, but also the use and maintenance of livestock management improvements and facilities associated with the grazing activity at the time of designation and which are in compliance with an approved Allotment Management Plan.

Congressional guidelines regarding "Grazing in National Forest Wilderness Areas," published in House Report 96-1126, dated June 24, 1980, will be implemented in all BLM-administered wilderness with pre-existing grazing. These guidelines will be applied using the normal planning and environmental assessment process and will be integrated into all management plans for the wilderness area.

h. **Minerals Management.** Until midnight December 31, 1983, the United States mining laws and all laws pertaining to mineral leasing shall extend to BLM-administered wilderness areas to the same extent as applicable prior to the date the wilderness was incorporated into the National Wilderness Preservation System.

(1) **Mining Law Administration.** Holders of unpatented mining claims validly established on any BLM-administered wilderness prior to inclusion of such unit in the National Wilderness Preservation System are accorded the rights provided by the United States mining laws as then applicable to public land involved. Persons prospecting or locating mining claims in BLM-administered wilderness on or after the date on which the said unit was included in the National Wilderness Preservation System are accorded similar rights subject to the provisions of the Wilderness Act and subsequent establishing legislation. All claimants must comply with reasonable conditions for the protection of resources in accordance with the general purposes of maintaining the National Wilderness Preservation System unimpaired for future use and enjoyment of its wilderness character.

Timber on mining claims within BLM-administered wilderness may be cut only for the actual development of the claim or uses reasonably incident thereto. Any severance or removal of timber, other than that necessary to provide clearance, on the claim shall be in accordance with sound principles of forest management and shall be done in such a manner as to minimize adverse effects on the wilderness resource. In the development and operation of mining claims, claimants will be required to prevent erosion and the obstruction, pollution, or siltation of streams, lakes, or springs or deterioration of the land.

A bond as prescribed in 43 CFR 3809.1-9 may be required. All reasonable measures will be required of the operator to reclaim disturbed lands as soon as feasible after operations cease. Ordinarily, needed work will be accomplished within one year after operations cease, unless provided otherwise by the BLM. Whenever possible and feasible the objectives of reclamation shall be to restore the surface to a contour which appears to be natural, although this may not be the original contour. Where such measures are impractical or impossible, the objective shall be to provide for the maximum achievable slope stability. Reclamation shall in all cases include revegetation where feasible and practical. If revegetation by natural means will not occur in time to prevent serious soil loss or other damage to wilderness values, revegetation by planting may be required, with preference given to the use of native species, where practical and reasonable.

If an application for patent has been filed but not acted upon when the requirements of the immediately preceding paragraph would normally be invoked, the requirements will be suspended while the patent application is under consideration. However, those requirements for the prevention of erosion and pollution, siltation or obstruction of

streams, lakes, or springs or deterioration of the land will continue to be observed.

The title to timber on patented mining claims validly established after the land was included in the National Wilderness Preservation System will remain in the United States, subject to a right of the patentee to cut and use timber. The patentee may cut and use as much of the mature timber as is needed in the extraction, removal and beneficiation of the mineral deposits, if needed timber is not otherwise reasonably available. The cutting shall comply with the requirements for sound principles of forest management as set forth in stipulations issued by the BLM.

In the development and operation of mining claims, claimants will be required to prevent unnecessary or undue degradation of the land.

(2) **Mineral Leasing.** Until January 1, 1984, all laws pertaining to mineral leasing will continue to apply in wilderness areas to the same extent they applied before the area was designated.

State Directors will make decisions on whether or not to issue mineral leases, permits, and licenses in wilderness areas. The State Director's decision to issue mineral leases will be made through the environmental assessment process and after consideration of what will best serve the public interest.

Reasonable stipulations for the protection of the wilderness character of the land will be incorporated into mineral leases, permits, and licenses covering lands within BLM-administered wilderness. Stipulations will be consistent with the use of the land for purposes for which they are leased, permitted, or licensed.

(3) **Common Varieties.** Permits shall not be issued for the removal of mineral materials commonly known as common varieties under the Materials Act of July 31, 1947, as amended and supplemented.

(4) **Withdrawal.** Subject to valid rights then existing, effective January 1, 1984, the minerals in lands designated as wilderness are withdrawn from all forms of appropriation under the mining laws and from disposition under all laws pertaining to mineral leasing, unless Congress specifically provides otherwise in the law designating the area as part of the National Wilderness Preservation System or in subsequent legislation.

i. **Commercial Services.** Commercial services such as those provided by packers, outfitters, and guides may be provided within wilderness areas to the extent necessary for activities which are proper for realizing the recreational or other wilderness purposes of the areas.

j. **Access to Non-Federal Lands.** States or persons, and their successors in interest, who own land completely surrounded by a wilderness area shall be given such rights as may be necessary to assure adequate access to that land. Adequate access is defined as the combination of routes and modes of travel which will, as determined by the BLM, cause the least lasting impact on the wilderness resource, and at the same time serve the reasonable purposes for which the State or private land is held or used.

No road shall be constructed across wilderness until authorized by the BLM. Access by routes or modes of travel not available to the general public may, when fully justified, be permitted by written authorization. The authorization will prescribe routes and modes of travel which will result in the least lasting impact on wilderness values and, at the same time, serve the reasonable purposes for which the land is held or used. A performance bond will usually be required (in accordance with Title V of the Federal Land Policy and Management Act).

Where the exercise of rights of access to surrounded State or private land would be detrimental to wilderness values, the BLM shall, before granting access, attempt to acquire such land by purchase or by exchange.

6. Existing Structures and Installations

After Congress has designated a wilderness area, an inventory will be made of existing structures and installations, critically evaluating the purposes and need for each, and its historical significance, if any. If a structure or installation has historical significance, it may be retained as a historic feature of the area. If it does not have historical significance, it may be maintained for continued use if it meets the "minimum tool" policy in paragraph 3 above, or if it is necessary for a use specifically permitted by the Wilderness Act or by the law designating the affected wilderness area. Any structure or installation that does not qualify for retention under the above criteria will be removed.

In maintaining or modifying existing structures and installations, the manager should consider the potential for using native materials and alternative technological approaches to make them as unobtrusive as possible.

7. Acquisition of Non-Federal Lands

Acquisition of non-Federal lands within wilderness areas is authorized by purchase or exchange. When such lands are to be acquired, the BLM will seek to acquire the mineral rights as well as the surface rights. Acquisition of privately-owned lands will occur only if the private owner concurs with the acquisition, or if the acquisition is specifically authorized by Congress to be accomplished by eminent domain.

8. Research and Collection of Management Information

Wilderness areas administered by BLM will provide opportunities for research and scientific activities that use wilderness areas for study of natural environments and ecosystems. Information collection activities by resource managers for wilderness and other purposes may also be conducted in wilderness. All research and collection of management information within the wilderness area will be conducted in an unobtrusive manner, by methods compatible with the preservation of the area's wilderness character. (Refer to section II. B. 5. d. for policy on gathering information about resources and section III. L. for specific policies on research.)

9. Buffer Zones and Adjacent Lands

No buffer zones will be created around wilderness areas to protect them from the influence of activities on adjacent land. The fact that nonwilderness activities or uses can be seen or heard from areas within the wilderness shall not, of itself, preclude such activities or uses up to the boundary of the wilderness area.

When activities on adjacent lands are proposed, the specific impacts on those activities upon the wilderness resource and upon public use of the wilderness area will be addressed in environmental assessments or environmental impact statements, as appropriate. Mitigation of impacts from outside wilderness will not be so restrictive as to preclude or seriously impede such activities.

10. Visitor Information and Education

Part of the wilderness experience valued by many visitors is the freedom from rules and regulations. Visitor education will be used to achieve management objectives where feasible. Only the minimum amount of regulation necessary to achieve desired objectives will be used.

To protect the natural appearance of wilderness areas, visitor informational and educational programs, signs, and poster boards will normally be located outside the wilderness boundary. An exception to this general rule is that informational or regulatory signs may be placed within wilderness areas as a management tool to correct specific problems and protect the wilderness resource or for the health and safety of visitors when these signs meet the "minimum tool" standard (see section II. B. 3.)

Informational and educational materials pertaining to the management of BLM-administered wilderness in general or to specific wilderness areas will be readily available to the wilderness user at BLM offices. Such materials will inform visitors of the responsibilities and risks involved in visiting a wilderness area.

11. Administration

a. **Wilderness Management Plans.** A wilderness management plan will be developed for each BLM-administered wilderness area as a means of applying the Wilderness Management Policy to that specific area. The plan will be tailored to the local conditions of each wilderness by prescribing any specific objectives appropriate to the area, consistent with the Wilderness Management Policy. Plans should consider the different kinds of environmental settings, history of use, and management situations pertaining to the individual wilderness area. The wilderness management plan will describe the strategy to be used to implement both the Wilderness Management Policy and the specific objectives prescribed for the area.

Management plans for individual wilderness areas should be flexible and must be updated periodically to reflect changes in conditions and use. New inventory data, use patterns, demand trends, supply conditions, management concerns, etc., may change over a period of time, and some goals and objectives applicable soon after a wilderness area is designated may not be appropriate further in the future. Managers should use the land management planning process to analyze all available options, so as to respond to changing conditions.

In developing wilderness management plans, the concept of stratification or zoning between wilderness areas or within individual areas should be considered as a means of achieving management objectives or providing different experiences and opportunities. For example, it may be desirable to manage one wilderness or a portion of an area within a wilderness primarily for protection of an endangered wildlife species. In another wilderness, managers may want to establish different zones of experience, providing recreational opportunities ranging from (1) high concentrations of use to (2) a series of more natural areas as one penetrates into the inner core, to (3) a pristine area which may have no trails or signs. Stratification or zoning can help the wilderness manager achieve objectives, protect resources, and satisfy user demands and expectations.

b. **Coordination.** When a wilderness area's boundaries overlap BLM administrative boundaries, management will be coordinated between District and State Offices to ensure uniformity in management practices.

When a wilderness area involves contiguous lands administered by BLM and by another Federal agency, the BLM will remain an active manager of lands under its administration, unless it has been determined that more effective wilderness management can be achieved by transferring the land to the other agency or by some form of cooperative management. State Directors have the option of approving cooperative management agreements with other Federal agencies on a case-by-case basis. Wherever appropriate, a joint management plan by all agencies involved will be encouraged.

Coordinated planning efforts will also involve State fish and wildlife agencies and all other Federal, State, county, and local agencies, Indian tribal governments, and organizations that may be affected by wilderness management activities.

c. **Wilderness Management Personnel.** Wilderness management personnel may be employed to help implement the provisions of a wilderness management plan. They can facilitate protecting the wilderness resource by assisting visitors with suggestions, advice, and information; enforcing regulations; performing minor trail repairs; and removing trash. Wilderness management personnel can reduce site-specific problems, such as the overuse of popular camp areas, by relocating camp sites and performing rehabilitation work. The manager may also use wilderness management personnel to gather information about resource trends and visitor use. The decision to employ wilderness management personnel should be made on a case-by-case basis. Their use may or may not be required, depending on local conditions. In cases where personnel are not employed specifically for wilderness management, the BLM will assign appropriate personnel as needed to monitor the condition of the wilderness resource.

Chapter III. Guidelines for Specific Activities

The guidelines in this chapter are an application of the policies set forth in Chapter II to various activities that may or may not take place in BLM-administered wilderness areas. These guidelines are also based on other applicable laws and on other policies and regulations of the Department of the Interior.

These guidelines will be used in developing a Wilderness Management Plan for each BLM-administered wilderness area, containing guidance on how specific activities will be treated in that area. Until such time as a Wilderness Management Plan is approved by the State Director, interim decisions on specific activities in a wilderness area will be made by BLM field officials based on these guidelines.

Decisions on any activities not addressed in these guidelines will be made on the basis of the policies in Chapter II.

III. A. Recreation and Visitor Use

Wilderness areas administered by the BLM shall provide a variety of uses including, but not limited to, recreational, scenic, scientific, educational, conservation, and historical.

The wilderness resource will be dominant in all management decisions where a choice must be made between preservation of wilderness character and visitor use. There are places and times within wilderness where unique values may require that recreation and visitor use activities be restricted or entirely prohibited in order to preserve an enduring resource of wilderness. The highest priority among various kinds of visitor use will be accorded those activities which (1) are most dependent upon the wilderness environment and cannot be reasonably accommodated outside of wilderness, (2) least affect the wilderness environment.

Consideration must be given to the ability of the wilderness resource to sustain visitor use without loss or degradation of the wilderness resource itself. Carrying capacity—social, biological, and physical—may vary widely within and between wilderness areas due to variations in types and amounts of uses, resource characteristics, and the capabilities of the resources to sustain different types and amounts of uses. The leading management tool and document to consider these factors and set guidelines for managing visitor use will be the Wilderness Management Plan. These plans will describe the level at which an area is able to absorb use and impacts and will describe measures needed to protect wilderness values.

The following specific guidance applies to visitor use within BLM wilderness:

1. Visitor Management

Visitor management techniques will be utilized in wilderness when necessary to preserve both the wilderness resource and the visitor's wilderness experience and opportunities. Management of visitor use will be the minimum necessary to provide for use of the area as wilderness, and to preserve the wilderness character of the area.

Visitor management should be planned to maintain a high-quality wilderness resource and to protect the quality of the wilderness experience. The Wilderness Management Plan will consider all appropriate and compatible methods to manage levels of use that are within the capacity of the wilderness. Visitor management may be carried out by both direct and indirect methods.

a. **Indirect Methods.** Visitor use may be managed through such indirect efforts as:

(1) Wilderness rangers informing visitors about less congested areas.

(2) Obliteration of improvements at overcrowded or undesirable sites.

(3) Improved access to tributary, lightly used areas.

(4) Information to (a) encourage use of lightly used or relatively unknown areas, or to (b) stress the experiences and value to be found outside the peak use period.

(5) Minimize the promotion of an outdoor experience in wilderness and emphasize such uses of undeveloped areas outside wilderness.

(6) Reroute primary transportation away from major destination areas. Have spur trails to vistas or camp areas.

(7) Design and management of trail-head areas, including access roads and parking areas.

(8) Education of visitors about good wilderness manners and ethics.

(9) Use of built-in frictions or obstacles, such as low-standard access roads.

(10) Removal of trail-head improvements and/or restriction of travel into areas already overused or where capacity use already occurs.

b. **Direct Methods.** More direct methods to achieve visitor management may include:

(1) Regulating the use of saddle horses and/or pack stock.

(2) Managing areas strictly for foot or horse use only, to protect sensitive sites and resources, or to provide different recreation opportunities or experiences within the wilderness.

(3) Requiring permits for specific areas or time periods. A permit or registration system can be an important tool for both the wilderness manager and wilderness visitor. Both systems provide visitor use data on the number and distribution of visitors. In addition, a permit or registration system can give the visitor site-specific information helpful in preplanning a trip. A permit system can be utilized also to limit or redistribute and disperse visitor use.

(4) Limiting the number of people in parties or the number permitted to stay overnight at specific locations.

(5) Limiting numbers of users. The Wilderness

Management Plan will analyze needed methods and identify necessary measures.

(6) Stock grazing or canoe/boat-beaching restrictions, both private and commercial, on overused or concentration areas.

2. Improvements and Facilities

Facilities and improvements such as trails, bridges, signs, and campsites, will be provided only where they are the minimum necessary for protection of the wilderness resource and for the health and safety of persons within the area. No facilities or improvements will be provided for the comfort and convenience of the visitor. The need for proposed facilities, such as latrines, fire circles, and fences will be justified in the Wilderness Management Plan. Improvements and facilities when approved will be constructed of materials which harmonize with the natural environment.

Existing improvements or facilities not specifically provided for in these guidelines—those having no historical value and not necessary for preservation of an area's wilderness character or for the health and safety of persons within the area—will be removed.

Construction, maintenance, and removal of facilities and improvements will be by primitive means. Exceptions to this policy, such as using handpowered portable tools and aircraft, may be approved by the State Director if no other alternatives exist, the mechanized or mechanical equipment is the minimum necessary, and they will not degrade or impair the area's wilderness character.

a. **Trail Systems**

(1) New trails will be constructed only if they are needed to preserve wilderness values and resources and they will not significantly degrade the degree of naturalness or solitude in the area. Trails are an acceptable improvement provided they are constructed and maintained so they have an insignificant impact on wilderness values. Wilderness management plans will address where trails and related facilities are appropriate.

(2) Existing trails and trail systems will be evaluated to determine if they are the minimum necessary to meet wilderness management objectives. Trails may be expanded, relocated, restored, or closed as a result of the evaluation. Wilderness Management Plans will address the present situation and evaluate future needs. Trailhead access points will be evaluated at this time. Trailhead locations should be carefully chosen as they have a profound influence over management of visitor use. It may be desirable to locate trailhead access points well outside the wilderness boundary to reduce their impact upon the wilderness area.

(3) Trail routes shall be selected to provide scenic vistas and, where possible, a varied scene. Heavily used areas should generally be served by spur trails and should be bypassed by primary trails. Trails will not be constructed with treads of more than 24 inches in width except where a wider trail is justified for protection of the wilderness resource. Trails should follow natural contours where possible and result in minimum disturbance to soil and ground cover.

(4) Bridges will be designed and constructed so as to harmonize with the environment and will be the minimum size and complexity necessary to allow foot or stock use. Besides adhering to the basic standards set out for improvements and facilities above, bridges will be provided only:

(a) When no other route or crossing is reasonably available.

(b) Where the crossing, during the primary season of public use:

—Cannot be safely negotiated on foot.
—Cannot be safely forded by horses.

(c) Where less formal devices are frequently destroyed or damaged by flood water.

b. **Signing**

Only a minimum of signs will be provided for the visitor, in combination with availability of accurate maps, route descriptions, brochures, etc. Signs will be provided primarily for visitor safety and resource protection. Signs will not be placed within the wilderness for the convenience of the user.

(1) Signs may be erected at trail junctions, showing directions with arrows.

(2) Informational or interpretive signs will not be used to mark streams, lakes, mountain peaks, passes, or points of interest.

(3) Regulatory signs will be kept to the minimum necessary, and may be of materials other than wood. When regulatory signs are posted within a wilderness, notice pertaining to these regulations will also be posted at trailheads or major access points and published where feasible on brochures or maps or otherwise made available to the user prior to entry into the wilderness.

c. **Use of Campsites**

(1) Campsites or camping areas may be designated if necessary for the purpose of wilderness resource protection. They will be located sufficiently distant from lakes, streams, trails, or other natural attractions as to allow appropriate use without unacceptable degradation of the focal point of public interest. Space between sites should be sufficient to ensure a reasonable degree of solitude and quiet. A "no-trace" camping concept will be promoted.

(2) Shelters or lean-tos will not be constructed, and existing shelters will be removed from within wilderness. Shelters or lean-tos determined to have historical value may remain, and their protection and use will be addressed in the Wilderness Management Plan.

(3) Garbage pits will not be permitted, and existing garbage pits will be closed. A "pack-it-in, pack-it-out" philosophy will be encouraged with visitors. Every practicable medium will be used to educate and inform the visitor on this point.

(4) Improvised camp structures constructed by visitors will not be permitted. They will be dismantled and obliterated when and where found.

(5) Hitchracks or corrals and other improvements to facilitate stock use may be used as necessary to prevent damage to the wilderness resource. They will be located away from main-traveled trails, streams, lakes, camping areas, and focal points of interest, and will be constructed of materials which harmonize with the environment.

d. **Outfitter Camps**

The Wilderness Management Plan will carefully analyze the role of the outfitter-guide in a particular wilderness. Some wilderness areas may not be particularly suited to this kind of service due to size, shape, location, etc., or to the objectives for management of a particular wilderness. Also, the visitor-use capacity of the wilderness as well as public needs must be considered in making a decision to permit or not permit outfitter-guide services. If allowed, these services will be planned and administered to meet public needs while maintaining the wilderness resource. Operations will be so administered as to be harmonious with those of wilderness visitors who do not employ such services.

Outfitter-guide camps will be located off the primary trails or scenic spur trails and at sufficient distance from attractions to avoid conflicts with other visitors. The BLM will select the location of outfitter-guide campsites as necessary to protect wilderness resources and the wilderness experience of other visitors. Outfitter-guides will operate under special recreation permits, which will include stipulations for management of the use. The Wilderness Management Plan shall evaluate the need for temporary caches not involving erection of structures and shall designate their locations, if caches are to be approved.

3. Fuelwood

If campsites or cooking fires are permitted, fuelwood cutting should be limited to dead and down material. The use of portable cookstoves will be encouraged whenever possible. The Wilderness Management Plan will define any regulations or restrictions needed for wilderness resource protection.

4. Contests

Contests, such as physical or mental endurance of a person or animal; foot races; canoe or boat races; competitive trail rides; survival contests or exercises (including military); and other activities of this nature shall not be permitted in wilderness areas. These activities do not depend on a wilderness setting, and they cause impacts that degrade the wilderness character of the area, thus adversely affecting wilderness-dependent uses.

5. Recreational or Hobby Mineral Collecting

Recreational or hobby collecting of mineral specimens (rockhounding) will be allowed in wilderness. Such use will be limited to hand methods or detection equipment that does not cause surface disturbance, such as a metal detector or Geiger counter. In addition, methods shall not be permitted that in any way adversely affect or degrade the wilderness resource or the experiences of visitors in the area. (This paragraph does not cover mining claims, which are addressed in section III. I below.)

III. B. Cultural and Historic Resources

Archeological and historical sites and values are a unique and nonrenewable part of the wilderness resource. They are protected by provisions of the Uniform Rules and Regulations (43 CFR Part 3) to carry out the Antiquities Act of 1906, the Historic Sites Act of 1935, Executive Order 11593, the National Historic Preservation Act of 1966, as amended, and the Archeological Resources Protection Act of 1979. To the extent not inconsistent with the concept of wilderness preservation and the intent of the Wilderness Act, and objectives for cultural resource management, these resources are available for recreational, scenic, scientific, educational, conservation, and historical uses (including ceremonial or religious use by Native Americans).

Cultural resources, in most instances, will be subject to the forces of nature in the same manner as other wilderness resources. Study or management will not normally include any excavation, stabilization, or interpretation activities. Salvage, rehabilitation, stabilization, reconstruction, and restoration work on archeological and historic sites; excavation; and intensive inventories may be permitted on a case-by-case basis where the project will not degrade the overall wilderness character of the area and such activity is needed to preserve the particular resource. State Director approval is required for all such projects.

The National Historic Preservation Act and Executive Order 11593 require an inventory and evaluation of cultural resources. The evaluation study for National Register of Historic Places eligibility is made using criteria in 36 CFR 1202.6 and in consultation with the State Historic Preservation Officer (SHPO). Those cultural resources found to qualify are nominated to the National Register of Historic Places.

Those sites or structures that do not qualify for the National Register may be allowed to deteriorate naturally, or be removed or obliterated. However, some structures may qualify for retention as historic features or under the "minimum tool" policy (refer to section II. B. 3), or as facilities necessary for a use specifically permitted by the Wilderness Act or by the law designating the affected wilderness area.

Management direction for cultural resources that qualify for nomination to the National Register is subject to compliance with Section 106 of the National Historic Preservation Act and 36 CFR 800. A decision to remove, maintain, or allow historic or prehistoric structures to deteriorate naturally is a Federal undertaking which will affect the resources. In working through the compliance processes, a determination will be made as to what feasible and prudent alternatives exist to satisfactorily mitigate adverse effects of the proposed decision on the cultural resources. A Memorandum of Understanding will be developed with all consulting parties whenever an adverse effect determination is made (36 CFR 800). The range of alternatives might include recording to established standards (by drawings and photographs), salvage (by removing or dismantling), stabilizing, or restoration. Stabilization or restoration and subsequent maintenance may be considered for administrative structures that meet the "minimum tool" policy (refer to section II. B. 3).

III. C. Forestry Resources

1. Cutting of Trees and Shrubs

Management of the forest cover will be directed toward retaining the primeval character of the environment and allowing natural ecological processes to operate freely. Trees, shrubs, and other vegetative products will not be sold or cut for nonwilderness purposes except under specified conditions set forth in these guidelines for valid mining claims and under emergency conditions such as fire, insect, and disease control.

2. Cutting of Trees for Administrative Purposes

Trees may be cut for use in the construction and maintenance of authorized improvements that are located within the wilderness when the necessary material cannot be reasonably obtained or brought in from outside the wilderness. Such cutting within the wilderness shall be done away from trails or campsites, and all evidence of the cutting shall be disposed of insofar as possible.

3. Cutting of Trees for Fuelwood

(Refer to section III. A. 3., Fuelwood, for specific guidance.)

4. Reforestation

Reforestation, in the absence of natural revegetation, will generally be prohibited, but in rare cases may be authorized by the Director to prevent deterioration or loss of the wilderness resource when the cause of the damage or loss is due to human activities and there is no reasonable expectation of natural reforestation. The natural processes of ecological succession will be the preferred method of site-restoration. When reforestation action is necessary, only native species and only primitive methods, such as hand planting, will be used.

III. D. Fish and Wildlife

Management will seek a natural distribution, number, and interaction of indigenous species of fish and wildlife. Natural processes will be allowed to occur in wilderness ecosystems, which include fish and wildlife populations, as far as possible without human influences. Management will protect the conditions that allow natural processes a maximum degree of freedom.

To the extent possible, wildlife species in BLM wilderness should be allowed to maintain a natural balance with their habitat and with each other. Wildlife may be harvested under State regulations, fisheries management will be consistent with preservation of the area's wilderness character, and direct fish and wildlife control measures will be applied only upon a showing of need under standards described below.

The BLM, in cooperation with State and Federal public health and fish and game officials, may make special exceptions, where necessary to control disease epidemics or other health hazards in which wildlife species are involved as carriers.

The basic responsibilities of the BLM and other cooperating State and Federal agencies in the management of fish and wildlife are not altered by the Wilderness Act. However, the constraints of the Act and the intent of the Congress articulated in the Act and in subsequent legislation will guide the management of wildlife in wilderness. Memoranda of Understanding will be developed with appropriate State game and fish agencies to clarify wildlife management jurisdictions. Wilderness Management Plans will specify wildlife habitat conditions to be maintained. Development of management plans will fully involve all Federal, State, and local agencies and organizations in the formation of management direction.

The preservation of sensitive, rare, threatened, and endangered species dependent on wilderness conditions will be favored.

The killing of native birds and mammals which are a natural component of the biotic community, but are not provided protection by State or Federal law, will be discouraged or controlled if necessary through public education and Memoranda of Understanding with State game and fish agencies.

1. Hunting and Fishing

Hunting and fishing are permitted in BLM-administered wilderness, subject to applicable State and Federal laws and regulations. Coordination with State game and fish agencies for the management of resident wildlife and fish species will be sought in order to ensure maintenance of the wilderness resource. Specific management criteria may be cited in Memoranda of Understanding and the Wilderness Management Plan.

2. Fish and Wildlife Habitat

The proper balance of fish and game animals with their habitat may be achieved by managing public hunting and fishing. Objectives for the management of fish and wildlife habitat are normally compatible with the objectives for maintaining general wilderness character, or careful planning usually can make them so. Where incompatible, the requirements for maintenance of wilderness values will be overriding.

Vegetative manipulation projects for fish and wildlife purposes may be approved by the State Director on a project-by-project basis if they do not degrade wilderness character, or if they correct conditions which are a result of human influence, or if the project will promote the perpetuation of a threatened or endangered species.

Habitat manipulation by chemical or mechanical means may only be approved on a project-by-project basis where necessary for threatened or endangered species, or to correct unnatural conditions resulting from human influence. Such activities will be allowed only where manipulation would enhance the wilderness resource and where natural processes have been unsuccessful. Hand or aerial seeding of native vegetation species may be permitted after disturbances, such as wildfire, to restore essential food plants to a wilderness where the natural process of healing is not expected to occur. Actions of this type will be allowed only to enhance wilderness values and not to optimize habitat needs of any single wildlife species to the detriment of wildlife diversity in an untrammeled environment.

Wildfire or prescribed burning may be used as a wildlife management tool if carefully designed to maintain or enhance the wilderness resource. Wildfire or prescribed burning is to be used only when the project can be accomplished without serious or long-lasting damage to watershed or the area's wilderness character. Prescribed burning will not be permitted to improve wildlife utilization. It may be done only for the following purposes:

a. It is needed to maintain the natural condition of a fire-dependent ecosystem or to re-introduce fire where past strict wildfire control measures have interfered with natural ecological processes.

b. A primary value of a given wilderness will be sustained as a result of the burning.

c. It will promote the perpetuation of a threatened or endangered species.

Additional specific guidelines on prescribed burning appear in section III. E, Fire Management.

The BLM may authorize State and Federal agencies to use temporary enclosures and facilities to trap or transplant wildlife as long as they are the minimum necessary to protect or maintain the wilderness resource.

Although construction of facilities to enhance an area's value for wildlife or fish is not consistent with the free operation of natural processes, there are situations where such measures may be necessary for the continued existence or welfare of wildlife or fish living in wilderness. This is particularly true in the case of species adversely affected through human activities in such areas. Certain permanent installations to maintain conditions for wildlife and fish, upon consideration of their design, placement, duration, and use, may be permitted if the resulting change is compatible with preservation of wilderness character and is consistent with wilderness management objectives for the area, and if the installations are the minimum necessary to accomplish the task. Permissible actions under these criteria may include: installations to protect sources of water on which wildlife depend, such as enclosures; and water sources such as springs, wells, and guzzlers. Fisheries activities may be permitted as long as their purpose is to protect natural conditions, restore deteriorated habitat, and maintain wilderness values.

3. Wildlife Manipulation

In some instances, wildlife species once native to the wilderness have been forced from their original habitat by the encroachment of human beings and human activities. To the extent that these factors can be altered or managed within the intent of the Wilderness Act, native species no longer established in the wilderness area may be reintroduced and managed as a part of the wilderness resource. Care must be exercised to be certain that the species is native. Such programs will be addressed in the wilderness management plan.

Management of established exotic species (e.g., chukar partridge, pheasant) not natural to an area may continue where they enhance the wilderness character of a particular wilderness. Introduction of new exotics will not be permitted. Coordination with State and Federal agencies should be established for control of undesirable exotic populations.

4. Fish Stocking

Fish-stocking programs needed to meet wilderness management objectives shall be developed in cooperation with the State agencies or the Fish and Wildlife Service and shall be coordinated with overall wilderness management objectives. The probability of increased visitor use at stocked waters and the full impact and effect of such use on the wilderness resource will be recognized and considered.

Memoranda of Understanding with State agencies should be developed to establish a stocking policy for each wilderness where stocking is permitted, as a basis for a stocking plan. Basic decisions will be spelled out in the wilderness management plan for each wilderness. Aerial stocking of fish by State agencies or the Fish and Wildlife Service may continue where this was an established practice prior to designation. Authorization will be on a case-by-case basis. Aerial stocking should be done outside of general visitor use seasons when possible. Wilderness management plans should contain all necessary justification, mitigation, and definition of planting programs.

Some general guides for fish stocking in BLM wilderness units are:

a. Native species should be favored in waters with a history of supporting such species. Species native to the vicinity or region may be considered as an alternative. Exotic fish will not be considered, except where such practice existed prior to wilderness designation and it meets wilderness management objectives.

b. Waters with established undesirable fish or where overpopulations of fish have occurred should be managed for fish best suited to the water under natural conditions, and to meet wilderness management objectives. Barren waters may be stocked only if the wilderness management plan defines the desirability of such an action. The scientific value of barren lakes will be considered prior to approval to stock.

c. Presently nonstocked waters which at one time supported a native fish population, and which would provide suitable habitat for native fish species that would enhance the wilderness experience of visitors, may be considered for stocking on a case-by-case basis.

d. In all fish-stocking activities, threatened or endangered species shall receive primary consideration.

GLOSSARY

HABITAT MANAGEMENT PLAN (HMP). A written and officially approved plan for a specific geographical area of public land that identifies wildlife habitat and related objectives, establishes the sequence of actions for achieving objectives, and outlines procedures for evaluating accomplishments.

HARDROCK MINING. The extraction of locatable minerals except for placer deposits.

HERBACEOUS. Pertaining to plants having little or no woody tissue.

HERD MANAGEMENT AREA PLAN (HMAP). Plan for the management of a geographic area used by wild horses or burros. A HMAP outlines details of a burro or horse capture plan, adoption program, and long-term management of populations.

HOHOKAM. A desert farming culture centered in the middle Gila and Salt River drainage basins of Arizona. The Hohokam produced a characteristic type of red-on-buff pottery. The culture flourished from about 300 B.C. to 1450 A.D.

INHOLDING. A parcel of state or private land surrounded by a wilderness study area.

INTENSIVE LIVESTOCK GRAZING MANAGEMENT. A livestock management program that is based on the multiple-use resource management concept and that implements a specified grazing system formulated in an allotment management plan.

INSTREAM FLOW. The amount of waterflow a stream needs to support in a natural state the aquatic and adjacent riparian habitats.

INTRUSION (VISUAL RESOURCES). A feature (land, vegetation, or structure) that is generally considered out of context with the characteristic landscape.

LESS INTENSIVE GRAZING MANAGEMENT. Management recommended for allotments where projected benefits to multiple resources are not high enough to justify the costs of an intensive grazing system. As a rule, present management and rangeland condition are satisfactory and no major resource conflicts exist. Under less intensive grazing management, BLM sets numbers and kind of livestock and period of use on all lands in the allotment.

LITHIC SITE. A site containing debris left from the manufacture, use, or maintenance of flaked stone tools.

LOCATABLE MINERAL. Any mineral that can have a mining claim filed on it under the Mining Law of 1872 as amended.

LOCATION. The act of fixing the boundaries of a mining claim according to law or the claim itself.

MANAGEMENT FRAMEWORK PLAN (MFP). A land use plan for public lands that provides a set of goals, objectives, and constraints for a specific planning area to guide the development of detailed plans for the management of each resource.

MINERALIZED AREA. An area that has exposures or near-surface deposits of potentially valuable minerals.

MULTIPLE-USE MANAGEMENT. The management of the public land and its resources to allow their use in a combination to best meet the needs of the American people and ensure balanced and diverse resource use.

NATURAL AREA. Lands managed for retention of their typical or unusual plant or animal types, associations, or other biotic phenomena; or their outstanding scenic, geologic, pedologic, or aquatic features or processes.

NONINTENSIVE GRAZING MANAGEMENT. Management recommended for allotments having low potential for improvement or negative economic returns on public investments. Special management actions are not feasible. Subcategories include custodial, ephemeral, and ungrazed allotments. Under nonintensive management, an allottee is not required to follow a specified grazing system, but BLM specifies livestock numbers, type of animal, and grazing season on public lands only.

OFF-ROAD VEHICLE (ORV). Any motorized vehicle designed for or capable of cross-country travel on or immediately over land, water, sand, snow, ice, marsh, swampland or other natural terrain, excluding (a) any registered motorboat, (b) any fire, military, emergency, or law enforcement vehicle when used for emergencies and any combat or combat support vehicle when used for national defense, and (c) any vehicle whose use is expressly authorized by the respective agency head under a permit, lease, license, or contract.

ORE. A mineral deposit of sufficient quality and quantity to be mined at a profit.

PERENNIAL-EPHEMERAL ALLOTMENT. An allotment on which livestock are permitted to graze perennial vegetation but on which additional livestock grazing may be authorized should sufficient annual (ephemeral) forage be present. See Ephemeral Allotment.

PERENNIAL PLANT. A plant that has a life cycle of 3 or more years (Range Term Glossary Committee, 1974).

PERENNIAL STREAM. A stream that flows throughout the year.

PETROGLYPH. An art figure or symbol cut, carved, or pecked into a stone surface.

PHYSIOGRAPHIC INTEGRITY. Extent to which an area represents a landform in its entirety.

PICTOGRAPH. An art figure or symbol drawn or painted on a stone surface.

PLACER DEPOSIT. An alluvial or glacial deposit, as of sand or gravel, containing particles of gold or other valuable minerals.

PLACER MINING. The extraction of heavy minerals from a placer deposit by concentration in running water. Placer mining includes ground sluicing, panning, shoveling gravel into a sluice, scraping by power scraper, and excavation by drag line.

PRESCOTT CULTURE. A prehistoric culture characterized by the production of Prescott Gray Ware. The culture centered on Prescott and the Chino Valley of Arizona.

PRIMITIVE AND UNCONFINED RECREATION. Nonmotorized and nondeveloped types of outdoor recreation.

PRIMITIVE AREAS. Areas established to preserve, protect, and enhance lands of scenic splendor, natural wonder, scientific interest, primitive environment, and other natural values for the enjoyment and use of present and future generations. BLM primitive areas are managed to maintain the same quality of lands included in the National Wilderness Preservation System.

PROSPECT. An attempt to determine mineral values or the site of this attempt.

PUBLIC LAND. Federal lands administered by the Bureau of Land Management.

RANGELAND (RANGE). Land dominated by vegetation that can be grazed or browsed and whose husbandry is provided routinely through grazing management instead of renovation or cultural treatment.

RANGELAND DEVELOPMENT. A structure, development, or treatment used in concert with management (1) to rehabilitate, protect, and improve public land and its resources; (2) to arrest rangeland deterioration; and (3) to improve forage condition, fish and wildlife habitat, watershed protection, and livestock production, all consistent with land use plans.

RANGELAND PROGRAM SUMMARY. The document in which BLM officially announces its decision for a rangeland management program from among the alternatives analyzed in an EIS. The document discusses the other alternatives considered as well as the rationale for, projected benefits of, and implementation of the selected alternative.

RAPTOR. A bird of prey.

GLOSSARY

RESOURCE MANGEMENT PLAN (RMP). A BLM planning document that presents systematic guidelines for making resource management decisions for a resource area. An RMP is based on an analysis of an area's resources, their existing mnagement, and their capability for alternative uses. RMPs are issue-oriented and developed by an interdisciplinary team with public participation.

RHYOLITE. A silica-rich fine-grained rock of volcanic origin.

RIPARIAN. Situated on or pertaining to the bank of a river, stream, or other body of water. Riparian is normally used to refer to the plants of all types that grow along streams or around springs.

ROADLESS. The absence of roads that have been improved and maintained by mechanical means to ensure relatively regular and continuous use. A way maintained solely by the passage of vehicles does not constitute a road.

SCHIST. Any of various medium- to coarse-grained metamorphic rocks composed of laminated, often flaky, parallel layers of chiefly micaceous minerals.

SCOPING. An early and open process for determining the scope of issues to be addressed in an EIS and for identifying the significant issues related to a proposed action. Scoping may involve public meetings, field interviews with representatives of agencies and interest groups, discussions with resource specialists and managers, and written comments in response to news releases, direct mailings, and articles about the proposed action and scoping meetings.

SEGREGATION. Any action such as a withdrawal or allowed application (exchange) that suspends the operation of the general public land laws. To separate or set apart; to remove lands from the operation of part or all the public land mineral laws.

SENSITIVE PLANT SPECIES. Plants whose populations are consistently small and widely dispersed, or whose ranges are restricted to a few localities, such that any appreciable reduction in numbers, habitat availability, or habitat condition might lead toward extinction. Sensitive plants also include species rare in one locality (such as in Arizona) but abundant elsewhere. See Endangered and Threatened Plant Species.

SITE (ARCHAEOLOGICAL). A physical location where human activities or events occurred.

SOCIOCULTURAL RESOURCES. Places, objects, structures, and things of importance to a subgroup or population at large. Included are values that reflect the concepts, religion, social heritage, habits, skills, arts, and lifestyles of a given people.

SPECIAL-STATUS SPECIES. Those wildlife species either federally listed as endangered or threatened, state-listed, or listed by BLM as sensitive.

STANDARD METROPOLITAN STATISTICAL AREA (SMSA). A county that contains at least one city of 50,000 residents or more and as many adjacent counties as are metropolitan in character and are socially integrated with that central city or cities.

STATE HISTORIC PRESERVATION OFFICER (SHPO). The official within each state, authorized by the state at the request of the Secretary of the Interior, to act as a liaison for implementing the National Historic Preservation Act of 1966.

STRATEGIC MINERALS. Minerals essential to the national defense, for the supply of which the United States is wholly or in part dependent upon sources outside its continental limits and for which strict measures are needed to control conservation and distribution.

SUBECONOMIC MINERAL DEPOSIT. Known mineral deposits of sufficient quantity but insufficient quality to be mined at a profit under present conditions. See Economic Mineral Deposit.

SUPPLEMENTAL WILDERNESS VALUES. Resources not required for an area to be designated a wilderness but that are considered in assessing the wilderness potential of an area. Such values include ecological, geologic, and other features of scientific, educational, scenic, or historical value.

SUSTAINED YIELD. Achieving and maintaining a permanently high level, annual or regular period production of a renewable land resource without impairing the productivity of the land and its environmental values.

THREATENED ANIMAL SPECIES. Any animal species likely to become endangered within the foreseeable future throughout all or a significant part of its range. See Endangered Animal Species.

THREATENED PLANT SPECIES. Species of plants that are likely to become endangered within the foreseeable future throughout all or a significant portion of their ranges, including species categorized as rare, very rare, or depleted. See Endangered Plant Species and Sensitive Plant Species.

TRAILING. Controlled directional movement of livestock. Natural trailing is the habit of livestock or wildlife repeatedly treading in the same line or path (Range Term Glossary Committee, 1974).

TUFF. A rock formed of compacted volcanic fragments that are generally smaller than 4 millimeters in diameter.

UNIT RESOURCE ANALYSIS (URA). The system of data gathering and analysis that precedes land use planning for public lands.

UTILIZATION (FORAGE). The proportion of the current year's forage consumed or destroyed by grazing animals. Utilization is usually expressed as a percentage.

VEGETATION TYPE. A plant community with distinguishable characteristics, described by the dominant vegetation present.

VEHICLE WAY. A vehicle route established and maintained solely by the passage of motor vehicles.

VISITOR DAY. 12 visitor hours, which may be aggregated continuously, intermittently, or simultaneously by one or more people.

VISUAL RESOURCE MANAGEMENT (VRM) CLASSES. Classification containing specific objectives for maintaining or enhancing visual resources, including the kinds of structures and modifications acceptable to meet established visual goals.

WILDERNESS. An uncultivated, uninhabited, and usually roadless area set aside for preservation of natural conditions. According to Section 2(c) of the Wilderness Act of 1964,

> A wilderness, in contrast with those areas where man and his own works dominate the landscape, is hereby recognized as an area where the earth and its community of life are untrammeled by man, where man himself is a vistor who does not remain. An area of wilderness is further defined to mean in this Act an area of undeveloped Federal land retaining its primeval character and influence, without permanent improvements or human habitation, which is protected and managed so as to preserve its natural conditions and which (1) generally appears to have been affected primarily by the forces of nature, with the imprint of man's work substantially unnoticeable; (2) has outstanding opportunities for solitude or a primitive and unconfined type of recreation; (3) has at least five thousand acres of land or is of sufficient size as to make practicable its preservation and use in an unimpaired condition; and (4) may also contain ecological, geological, or other features of scientific, educational, scenic, or historical value.

WILDERNESS STUDY AREA (WSA). A roadless area or island that has been inventoried and found to have wilderness characteristics as described in section 603 of the Federal Land Policy and Management Act and section 2(c) of the Wilderness Act of 1964 (78 Stat. 891).

YUMAN. Various prehistoric groups that occupied the basin and range country on both sides of the lower Colorado River. These groups followed a seminomadic lifestyle while practicing floodwater agriculture and exploiting wild food sources. They are known for the production of Lower Colorado Buffware.

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